

**Comparison of**  
**the Coastal Nonpoint Pollution Control Program**  
**with the**  
**Alaska Coastal Management Program**

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## **Executive Summary**

This report identifies components of the Alaska Coastal Management Program that already meet §6217 requirements. Several "gaps" are identified where no ACMP statute or regulation meets the §6217 requirement.

### **Program Coordination, §6217(a)(2)**

This §6217 requirement is fulfilled by the following ACMP authorities: 1) the Division of Governmental Coordination "coordinates the activities of state agencies participating in the Alaska coastal management program..." (6 AAC 80.030), 2) the Coastal Policy Council is to "establish continuing coordination among state agencies..." (AS 44.19.161), and 3) local coordination is accomplished via the consistency determination process that requires regulations and controls of state agencies to conform with the enforceable policies of the local plans. (AS 46.40.100(a))

Therefore, an adequate coordination mechanism exists in the ACMP.

### **Implement Management Measures in Conformity with (g) Guidance, §6217(b)**

A detailed listing of all §6217 management measures and equivalent ACMP state-wide standards and general concurrences is presented in Table 1.

#### **Agriculture**

For those agricultural activities that are subject to ACMP consistency review, the Air, Land and Water Quality and Habitats standards are adequate to protect water quality.

Ground disturbing activities on cropland, grazing on private land, nutrient management, and surface application of pesticides to private land do not require a permit and are not subject to consistency review. Grazing on federal land, while requiring an authorization, is not subject to an ACMP review. However, if these activities resulted in a violation of water quality standards, DEC could take enforcement action.

A state standard specifically for agricultural nonpoint source pollution is not warranted, given the present and anticipated low intensity of agricultural development, the requirement for farm conservation plans as a condition of the state's sale of agricultural interest, and the fact that state disposals of agricultural interest are subject to consistency review.

### Forestry

The ACMP, primarily through the Timber Harvest and Processing standard, adequately achieves the intent of the §6217 management measures for forestry.

With regard to Management Measure I, Forest Chemical Application, fertilizers are not currently applied on commercial forest land in Alaska and are not expected to be applied in the future due to the high cost of application relative to the return. Pesticides are adequately covered in the Air, Land and Water Quality standard. Aerial application of pesticides and application of pesticides to water are subject to ACMP consistency review.

With regard to Management Measure G, Fire Management, wildfire suppression and rehabilitation impacts on water quality are not addressed in any ACMP standards. However, given the insignificant amount of coastal acres that burn each year, and the manner in which wildfire is suppressed (i.e. firelines are constructed by hand, not by heavy equipment), coastal waters are still protected generally even if this section of the management measure is not addressed in the ACMP.

### Marinas, Boat Harbors and Recreational Boating

The ACMP statewide standards and consistency review process adequately meet the intent of the harbor siting and design management measures, except for the requirement to reduce average annual loadings of total suspended solids (TSS) from hull maintenance areas (including grids) by 80%, and the requirement to design fueling stations to facilitate cleanup of spills.

With regard to the reduction of TSS, the Habitats standard is adequate to prevent the discharge of toxic substances into wetlands, estuaries, tideflats, lagoons, rivers, streams and lakes but does not specify a numeric reduction. Additionally, DEC has not adopted a TSS criteria in the water quality standards (which are incorporated into the Air, Land and Water Quality standard), but rather substitutes turbidity and settleable solids for TSS. The state and the Environmental Protection Agency will discuss the adequacy of this substitution in the future.

With regard to the fueling station design management measure, the Habitats and Air, Land and Water Quality standards only indirectly address this measure. The Habitats standard requires wetlands, estuaries, tideflats, lagoons, rivers, streams and lakes to be managed to prevent the discharge of toxic wastes and substances, but says nothing about requiring facilities in these habitats to be designed for ease of cleanup if a spill does occur.

AS 46.03.740, DEC's oil pollution statute, prohibits the unlawful discharge of oil but does not address how to facilitate the cleanup of the discharge. DEC

regulations that address cleanup apply only to oil tankers, oil barges, oil terminals, exploration facilities and production facilities, not marine fueling stations.

Harbor operation and maintenance activities such as solid waste handling, maintenance of sewage facilities, and liquid waste handling are subject to ACMP consistency review when harbor permits are renewed, if the standards of review have changed or the harbor has expanded significantly since the original permits were issued.

The Boat Operation management measure applies to non-harbor waters where evidence indicates that boating activities are impacting shallow-water habitats. The definition of shallow-water habitats is left up to each state. Implementation of this measure can be accomplished through the ACMP when marina development in or near the habitats listed in 6 AAC 80.130, Habitats standard, is proposed. Conformance with the management measure might be strengthened if the Habitats standard specifically mentioned and defined "shallow water habitat," but the existing list is adequate.

For shallow water habitats that are currently being impacted by boat operations, agencies such as Department of Natural Resources Division of Parks and Outdoor Recreation, or Department of Fish and Game Habitat and Restoration Division will implement this measure through their regulations.

#### Hydromodification

##### *Channel modification*

The ACMP standards and consistency review process adequately control nonpoint source pollution from new channelization projects. Operation and maintenance practices required for existing development may be included in an ACMP consistency review if the permits (eg: Fish Habitat permit) are expiring, and the project has changed or the standards of review have changed since the permits were originally issued.

##### *Dams*

Protection of Surface Water Quality management measure, Instream and Riparian Habitat management measure and section 1 of the Erosion and Sediment Control management measure are adequately addressed by the ACMP. Section 2 requires an approved dam construction erosion and sediment control plan; such a plan is not required by the ACMP but is a condition of the Department of Natural Resources Dam Construction Certificate of Approval (11 AAC 93.171).

The Chemical and Pollutant Control management measure has two parts. The first part addresses the application, generation, migration, storage and disposal of toxic materials, and is adequately covered under the Air, Land and Water Quality

standard. The second part addresses over-fertilization from bank stabilization activities. Fertilizer application is not specifically mentioned in any ACMP standard, however, the Habitats standard indirectly controls this by requiring rivers, streams and lakes to be managed to protect water quality and important fish or wildlife habitat.

Pollution caused by operation and maintenance activities at existing dams is addressed by the ACMP when project permits are renewed.

### *Shoreline and Streambank Erosion*

The ACMP provides a framework to control shoreline and streambank erosion caused by development. 6 AAC 80.050, Geophysical Hazard Areas standard, requires coastal districts to identify coastal erosion areas and develop siting standards to minimize impacts to life and property in those areas. The Habitats standard specifically protects many shoreline and streambank habitats from degradation. Special area management planning is another mechanism districts can pursue to protect shorelines and streambanks.

Existing development that causes shoreline and streambank erosion is subject to ACMP consistency review when the development permits expire, and the scope of the development has changed significantly, or the standards of review have changed since the original permits were issued.

Although existing ACMP authorities, coupled with other state and federal programs, are adequate to prevent nonpoint source pollution from erosion, the full potential of these programs has not been achieved. Due to the vastness of Alaska's coastline and the unpredictable nature of shoreline and streambank erosion, inventory and assessment efforts are incomplete. This has hampered state efforts to develop a comprehensive coastal erosion program.

### Urban Development

In general, ACMP standards and the consistency determination process adequately control nonpoint source pollution from construction that requires one or more state or federal permits.

Planning, siting and design of projects that require one or more state or federal permits is also adequately addressed by ACMP standards and the consistency determination process. The fact that virtually every proposed development in Alaska is in a wetland ensures that the ACMP will play a major role in the planning, siting, design and construction of projects.

Pollution caused by existing development can be addressed by the ACMP when project permits are renewed, if the development has changed or the standard of review has changed since the permits were originally issued.

However, many pollution-causing uses and activities do not require permits, or do not require approvals that must be renewed. Alaska will have to rely on other agencies' authorities to address these management measures.

Five possible "gaps" between the ACMP and the §6217 urban management measures have been identified:

- 1) inspection, operation and maintenance of new and existing onsite disposal systems are not covered under the ACMP,
- 2) erosion and sediment control plans for construction are not specifically required by the ACMP<sup>1</sup>,
- 3) watershed planning is not required by the ACMP,
- 4) 80% reduction of average annual total suspended solids from stabilized construction sites or reduction of post-development TSS loadings so that they are no greater than predevelopment loadings are not required by the ACMP, and may be economically unachievable in Alaska, and
- 5) use of fertilizers during the stabilization/revegetation phase is only indirectly addressed by the ACMP<sup>2</sup>.

#### Wetlands

The Habitats and Air, Land and Water Quality standards and section 401 certification adequately protect wetlands. Areas Which Merit Special Attention and other special area plans can also be used as mechanisms to protect wetlands.

The ACMP does not address restoration of wetlands or use of vegetated treatment systems.

#### **Identify Land Uses which Cause Water Quality Impairment, §6217(b)(1)**

Coastal district programs identify major land uses that occur within or adjacent to the district (6 AAC 85.050). Coastal districts also consider land and water uses and activities that have or are likely to have, direct and significant impact on

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<sup>1</sup> Through the section 401 process, DEC can require an erosion and sediment control plan for a project that is likely to cause sediment water quality problems.

<sup>2</sup> However, Alaska Department of Transportation and Public Facilities *Standard Specifications for Highway Construction* require the contractor to perform a soil test before applying fertilizer.

coastal waters when they determine the boundary of their coastal zone (6 AAC 85.040(c)(1)). The consistency review process identifies land uses and activities that cause or contribute to water quality impairment outside a local district.

A potential "gap" concerns the §6217 requirement that land uses be identified which, individually or cumulatively cause impairment. The ACMP regulations listed above as fulfilling this requirement do not require planners to consider cumulative effects when determining significant land uses. However, nine coastal district programs have enforceable policies that address the cumulative effects of land uses. See Appendix A for a discussion of cumulative impact assessment in coastal district plans.

#### **Identify Critical Coastal Areas §6217(b)(2)**

While there are many similarities between the Areas Meriting Special Attention (AMSA) planning process and the designation and management of critical coastal areas, the AMSA process is not in most cases the state's best option. The special area planning project that is currently underway may provide more alternatives. Further research into how other states are addressing this §6217 requirement is needed.

#### **Implement Additional Management Measures, §6217(b)(3)**

It is not possible at this time to determine what, if any, changes to the ACMP might be necessary to implement additional management measures.

Possible mechanisms for evaluating and revising additional management measures will be brought to the §6217 Task Force and other ACMP advisory groups for discussion. One possible mechanism is 6 AAC 85.120 which requires districts to submit annual reports to the Coastal Policy Council. The regulation could be revised to add a requirement that the annual report includes an evaluation of the effectiveness of the district's enforceable policies that ensure coastal waters meet state water quality standards, and, if necessary, a description of the steps the district will take to help bring impaired coastal waters into compliance.

#### **Technical Assistance, §6217(b)(4)**

This §6217 requirement is met by the following ACMP statutes and regulations: 1) the Coastal Policy Council, through the Division of Governmental Coordination, provides information to districts to carry out their planning and management functions (AS 44.19.161), 2) the Coastal Policy Council, through the Division of Governmental Coordination, provides educational materials concerning coastal management to the public (6 AAC 80.020), and 3) the Division of Governmental Coordination has scheduled workshops, meetings, and publication of a handbook

to help the public understand and solve nonpoint source pollution problems. Therefore, adequate authority exists to implement this requirement.

#### **Public Participation, §6217(b)(5)**

This §6217 requirement is met by the following ACMP statutes, regulations and policies: 1) all Coastal Policy Council, Coastal Policy Council Subcommittee on §6217, and §6217 Task Force meetings are public noticed, 2) the Coastal Policy Council must "give notice of when and where opportunities for public participation will be provided before adoption of guidelines and standards... and amendments to the Alaska coastal management program." (6 AAC 80.020), 3) coastal districts provide publically advertised opportunities for public involvement in the development of all district program elements. (6 AAC 85.130), and 4) districts provide copies of draft programs and significant amendments to all parties identified as having a significant interest in the program or amendment. The availability of the document is public noticed, and at least one public hearing is held (6 AAC 85.145). Therefore, existing ACMP statutes, regulations and procedures are adequate to meet the intent of §6217(b)(5).

#### **Administrative Coordination, §6217(b)(6)**

Administrative coordination is achieved through AS 44.19.160, which states that the Coastal Policy Council may consult and cooperate with federal, state and local agencies concerned with or having jurisdiction over coastal planning and management. DGC is establishing mechanisms to improve coordination among state agencies responsible for water quality, habitat protection, transportation, and resource development. State agencies and the US Forest Service have appointed liaison staff to the state §6217 program. A §6217 Task Force has been formed, comprised of representatives of state agencies and coastal districts. A district planning working group has been convened to study changes to district planning procedures. Some of the changes may incorporate §6217 requirements. DGC and DEC have identified the preparation of a joint MOU as a FY 94 work task. Based on these statutory authority and activities, the ACMP has demonstrated adequate authority and political will to satisfy this requirement.

#### **Coastal Zone Boundary Modification, §6217(b)(7)**

The Division of Governmental Coordination's response to NOAA's boundary recommendation is provided in Appendix B.



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## INTRODUCTION

Alaska is considering an innovative program to reduce nonpoint source pollution that damages our coastal waters. The program is called the Coastal Nonpoint Pollution Control Program, often referred to as "§6217," from the section of the 1990 Coastal Zone Act Reauthorization Amendments that authorized it. The purposes of §6217 are to protect, and restore where necessary, coastal waters and enhance local efforts to keep coastal waters clean.

When Congress authorized the program, they did not expect states to develop new stand-alone procedures. Rather, they expected states to update and expand their existing nonpoint source, coastal zone, and other resource programs to fulfill the goals and requirements of §6217. This approach is similar to that of the Alaska Coastal Management Program (ACMP), which relies on existing agency authorities to form a comprehensive land and water management system.

This report identifies components of the Alaska Coastal Management Program that already meet §6217 requirements. Several "gaps" are identified where no ACMP standard meets the §6217 requirement. A detailed listing of §6217 management measures and equivalent ACMP state-wide enforceable policies (standards) and general concurrences is presented in Table 1.

Drafts of this report were distributed to the §6217 Task Force and the Departments of Community and Regional Affairs, Environmental Conservation, Fish and Game, Commerce and Economic Development, Natural Resources, and Transportation and Public Facilities, and the US Forest Service. The preliminary conclusions drawn from this analysis were also presented to the Coastal Policy Council Subcommittee on §6217.

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## **OVERVIEW OF THE ALASKA COASTAL MANAGEMENT PROGRAM**

The Alaska Coastal Management Act, formally establishing the Alaska Coastal Management Program, was enacted by the state legislature in 1977. Legislative intent indicates that a primary purpose of the ACMP is to balance use and protection of coastal waters and resources.

The ACMP is made up of a Coastal Policy Council that performs statewide oversight of ACMP activities; a set of statewide standards (regulations) for uses and activities in the coastal zone that require a state permit or federal action; and thirty-four borough, municipal, city or regional district coastal management programs. Coastal district programs supplement the state standards with additional local policies that are enforceable as state law.

Policy direction on natural resource development and conservation within the coastal zone is embodied in statewide standards set forth in 6 AAC 80. These standards are enforceable regulations of the state program, and also are the basis for coastal district programs. Coastal district programs usually include additional standards, for instance, mitigation procedures.

While local governments are not required to develop coastal programs, approved programs are used in state and federal consistency reviews under the ACMP.

Districts should implement their coastal management programs through their Title 29 municipal planning, zoning and platting authorities. In practice however, the primary implementation agent of district programs is the state, through the state directed consistency review process.

### **Consistency**

As used in this report, "consistency" means compliance with the standards of the ACMP, including the enforceable policies of an approved coastal district program. Consistency reviews of projects

requiring federal authorizations, or authorizations from more than one state agency are conducted by the Division of Governmental Coordination, with formal participation by affected coastal districts and state agencies. A resource agency coordinates the consistency review and renders a conclusive consistency determination for projects which require only permits of that agency and no federal permit.

The ACMP is a "networked" program, that is, it is implemented through existing agency authorities. For example, the Air, Land and Water Quality standard incorporates by reference the statutes and regulations of the Department of Environmental Conservation that pertain to the protection of air, land and water quality. State agencies, in authorizing uses or activities in the coastal zone under their own authority, must also find that the use or activity is consistent with the ACMP standards and approved district programs.

### **Coastal zone boundaries**

Alaska's coastal zone extends over 33,000 miles of shoreline. The coastal zone boundary was determined by examining geophysical relationships such as water flow, erosion, salt spray, ice movements and the like; and by studying biological links between the marine and terrestrial environments. Based on this evaluation, the zone of direct interaction (where physical and biological processes are directly impacted by the dynamics of oceanic processes) and the zone of direct influence (the portion of the coast landward of the zone of direct interaction which is closely affected and influenced by the proximity of the sea) were selected as the state's initial inland coastal zone boundary.

Each coastal district was required to define a final coastal zone boundary for its area, subject to Coastal Policy Council approval. Districts could diverge inland from the initial boundary to include all uses that could have a direct and significant impact on marine coastal waters. An impact on coastal waters is defined in the ACMP to include impact on living resources, such as anadromous fish, that depend on coastal waters. Thus, the final boundary of Alaska's coastal zone ranges inland from less than 2000 feet up to approximately 250 miles from the shoreline.

## DISCUSSION

The following components of the ACMP meet the statutory requirements of the Coastal Nonpoint Pollution Control Program. The §6217 component is summarized first in each section, followed by the ACMP component that addresses it.

### Program Coordination, §6217(a)(2)

#### *§6217 Component*

State coastal nonpoint pollution control programs must be closely coordinated with state and local water quality and coastal management programs.

#### *ACMP Equivalent*

The importance given to coordination is emphasized throughout the statutes and regulations governing the ACMP. The program is administered by the Division of Governmental Coordination that "coordinates the activities of state agencies participating in the Alaska coastal management program..." (6 AAC 80.030). The Coastal Policy Council is to "establish continuing coordination among state agencies..." (AS 44.19.161)

Local coordination is accomplished via the consistency determination process. District plans articulate local needs and goals. Regulations and controls of state agencies must conform with the enforceable policies of the local plans. (AS 46.40.100(a))

#### *Conclusion*

An adequate coordination mechanism exists in the ACMP.

## **Implement Management Measures in Conformity with (g) Guidance, §6217(b)**

### ***§6217 Component***

State programs shall provide for the implementation of applicable management measures that are in conformity with the EPA document *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. Management measures are goals. An example of a management measure is: "Assess water quality as part of marina siting and design."

Management measures are achieved by the application of "management practices." The guidance describes many management practices that can be applied successfully to achieve each measure. For example, for the management measure listed above, the guidance suggests three practices: water quality monitoring before, during and after development, numerical water quality modeling and preconstruction inspection and assessment.

### ***ACMP Equivalent***

The ACMP uses statewide standards that are descriptions of program intent and provide common compliance goals. They are somewhat analogous to §6217 management measures.

Local district enforceable policies, which are more explicit and are designed to achieve the intent of the statewide standards, are essentially equivalent to §6217 management practices.

Standards of the ACMP that, in whole or in part, address nonpoint source pollution categories and wetlands, are:

- 6 AAC 80.040, Coastal Development
- 6 AAC 80.050, Geophysical Hazard Areas
- 6 AAC 80.070, Energy Facilities
- 6 AAC 80.080, Transportation and Utilities
- 6 AAC 80.100, Timber Harvest and Processing
- 6 AAC 80.110, Mining and Mineral Processing
- 6 AAC 80.130, Habitats

- 6 AAC 80.140, Air, Land and Water Quality

The consistency determination requirement described in 6 AAC 50 ensures that the standards are implemented within the coastal zone. AS 46.40.100 gives state agencies and municipalities enforcement responsibility for provisions of the ACMP. Violations of stipulations based on enforceable policies found in district plans, special area plans and Areas Meriting Special Attention (AMSA) plans, or violations of consistency related permit stipulations, are subject to enforcement action.

State agencies receive modest monitoring and compliance funds from the ACMP. The intent is to augment agency efforts to ensure that conditions of approval attached to federal or state permits are carried out.

The following section is arranged by §6217 pollution source categories identified in the EPA guidance. To give the reader a frame of reference, an overview of the nature and extent of the pollution category in Alaska is described first, followed by a discussion of the ACMP standards that are equivalent to the EPA management measures.

## AGRICULTURE

### *Resource Information*

Agricultural production in Alaska's coastal zone is currently quite minimal. High transportation costs, lack of infrastructure, small local markets and high operating expenses are the major limiting factors.

Agricultural production is expected to continue at the current level, or grow slowly as more "ag-homestead" land is brought into production and Alaskan farmers develop niche markets. Vegetable and seed growers especially, are aggressively promoting the purity of Alaskan growing conditions to markets in the Lower 48.

Presently, agricultural nonpoint source pollution is insignificant and limited to local occurrences. This is due to low intensity of development and the requirement that a purchaser of state agricultural

land or recipient of US Department of Agriculture assistance develop an approved farm conservation plan.

Many farms in the coastal zone were obtained from state agricultural land sales in the late 1970's and early 1980's. The state disposed of the agricultural interest only. Because the ACMP was still "under construction" then, those disposals did not undergo a consistency review. Future state disposals of agricultural interest are subject to consistency review.

To protect the land value, the state required successful bidders to submit farm conservation plans as part of the sale contract. Farm conservation plans are incorporated into the sale contracts and conveyance documents as covenants. Plans are developed in consultation with the USDA Soil Conservation Service and are approved by the local Soil and Water Conservation District.

According to the US Soil Conservation Service, there are approximately 8.4 million acres of land in Alaska with conservation plans.

Cropland. Coastal agricultural land harvested for vegetables, grain, and feed crops was less than 11,400 acres in 1992.

Hayland. Hay and silage was harvested from less than 10,000 acres in the coastal area in 1992.

Confined animal facilities. According to recent surveys, no farms meet the §6217 definitions of small or large horse, chicken, turkey or swine confined animal facilities. Four or five dairies in the coastal region may meet the §6217 definition for large confined animal facility. One to two dairies, 10-50 seasonal beef feedlots, and one to two hog confinement facilities meet the definition for small confined animal facility.

Grazing land. Millions of acres of coastal tundra in western Alaska are used by a small group of Eskimo reindeer herders. There are thousands of acres of grasslands on the Aleutian Islands, Kodiak Island group, and the Alaska Peninsula that are suitable for grazing sheep and cattle, but almost none of the range is in use.



Nutrients. Alaskan farmers applied less than 10,000 pounds of fertilizer and less than 700 pounds of lime in the entire state in 1992. Roughly half that amount was applied to cropland in coastal parts of the state.

Pesticides. Herbicides are the only substance reported by commercial farmers in the *Alaska Pesticides Profile* (1986, Environmental Protection Agency, Anchorage). Although precise figures for coastal Alaska are lacking, a rough estimate suggests that glyphosate (17 gallons applied in 1986), diazinon (13 gallons) and dinoseb (126 gallons), were the most commonly used herbicides.

Irrigated cropland. Best estimates of irrigated cropland in coastal Alaska are: 575 acres in small grain and vegetables, 2000 acres in hay and silage and 10 acres in nursery production.

No impaired waterbodies in the coastal zone are attributed to agriculture in the *Water Quality Assessment, Section 305(b) Report to the Environmental Protection Agency* (1992, Department of Environmental Conservation, Juneau). However, according to the Alaska Department of Fish and Game, confined animal facilities (principally horse stables) contribute to degradation of at least two streams subject to Total Maximum Daily Load requirements.

### ***Analysis***

The ACMP does not contain a specific standard for agriculture. However, an ACMP consistency review is required before the state:

1. sells or leases farmland or grazing land,
2. issues a water right or permit to appropriate water for irrigation or general farm use,
3. issues or renews a permit for aerial application of pesticides or application of pesticides to water, and
4. issues or renews a nondomestic wastewater permit for a dairy.

Two standards are especially relevant to agriculture. The Habitats standard, 6 AAC 80.130, addresses the management of wetlands, estuaries, important upland habitats, rivers, streams and lakes. These habitats must be managed to maintain or enhance their life supporting characteristics. Uses and activities which do not conform to this objective are allowed in these habitats if there is significant public need, there is no feasible prudent alternative to meet the public need, and all feasible and prudent steps to maximize conformance with the standard are taken.

Agricultural activities subject to the ACMP will also be reviewed for consistency with 6 AAC 80.140, Air, Land and Water Quality. This standard incorporates by reference the statutes and regulations of the Alaska Department of Environmental Conservation that pertain to the protection of air, land and water quality. In addition to general water quality and pesticide authorities and procedures, DEC has published "Guidelines for Water Quality Management on Dairy Farms in Alaska" which is used in nondomestic wastewater system plan reviews.

### ***Conclusion***

For those activities that are subject to ACMP consistency review, the Air, Land and Water Quality and Habitats standards are adequate to protect water quality.

Ground disturbing activities on cropland, grazing on private land, nutrient management, and surface application of pesticides to private land do not require a permit and are not subject to consistency review. Grazing on federal land, while requiring an authorization, is not subject to an ACMP review. However, if these activities resulted in a violation of water quality standards, DEC could take enforcement action.

In regions where agriculture is present, coastal districts can adopt enforceable policies that address this activity. For example, the Matanuska-Susitna Borough has adopted an agriculture enforceable policy in its coastal management plan.

A state standard specifically for agricultural nonpoint source pollution is not warranted, given the present and anticipated low intensity of agricultural development, the requirement for farm conservation plans

as a condition of the state's sale of agricultural interest, and the fact that state disposals of agricultural interest are subject to consistency review.

## FORESTRY

### *Resource Information*

Typical pollutants from timber harvest operations include sediment, vegetative debris and elevated stream temperature. The following information is taken from the *Alaska Nonpoint Source Pollution Control Strategy, Section 319 Management Program* (1990, Department of Environmental Conservation, Juneau)

Sedimentation occurs naturally in southeast Alaska, primarily through landslides induced by heavy rainfall on steep slopes with unstable soils. A recent evaluation of landslides in southeast Alaska found that landslides per unit area were five times more frequent in logged areas than in unlogged areas. Most of the increase was in small slides that did not reach active streams; however, the slide material can become a sediment source for down-slope streams.

Felling unauthorized trees in riparian areas is the most common incident resulting in issuance of Notice of Violation by state forestry officials. While large woody debris is an essential component of fish habitat, needles, bark flakes and small debris can cover spawning gravels and reduce dissolved oxygen in slow moving water.

Removal of streamside trees and shrubs can lead to elevated stream temperatures. In southeast Alaska, removal of streamside trees probably does not increase water temperature to lethal extremes, but may contribute to depletion of dissolved oxygen. Mortality of salmon and other species has been recorded in southeast Alaska during periods of extended hot, dry weather. The likely cause of mortality is depletion of oxygen, aided by temperature stress. Depletion of oxygen probably occurs through a combination of low water flows, high density of fish, and reduced oxygen concentration due to temperature elevation.

Timber harvest. Commercial timber harvest in Alaska is concentrated in the rainforest of the southeast Alaskan archipelago. Most cutting occurs on the Tongass National Forest and private Native corporation land. According to figures compiled by the Alaska Department of Commerce and Economic Development, timber harvest on Native corporation land in southeast Alaska in federal FY 92 was about 446 million board feet. Timber harvest on the Tongass National Forest in federal FY 92 was 370 million board feet.

In southcentral Alaska, timber harvest on Native corporation land in federal FY 92 was about 123 million board feet. Logging on the Chugach National Forest was .5 million board feet, limited to very small sales designed to control a spruce bark beetle outbreak.

Logging on state forest land in southeast and southcentral Alaska yielded 16 million board feet in 1992. Bureau of Indian Affairs harvest was 4.5 million board feet.

The 1992 *Alaska Water Quality Assessment* reports three impaired surface waterbodies, and 31 "suspected of being affected by point and nonpoint sources" attributed to timber harvest. Three additional waterbodies are impaired by logging road construction activities.

Mechanical site preparation. Mechanical site preparation is not necessary in southeast Alaska, where natural regeneration is more than adequate to meet restocking goals. Up to 500 acres of state forest land in southcentral Alaska undergo mechanical site preparation yearly.

Fire. Prescribed fire is not used in southeast Alaska, due to high rainfall and high rates of decomposition, and is rarely used on southcentral Alaskan commercial forest land. For 1992, the last year figures are available, there were no prescribed fires in southcentral Alaska.

Due to the high rainfall, wildfires are extremely rare in southeast and southcentral Alaska. In 1992, which was considered a typical year, one wildfire burned one acre of land in southeast Alaska. Kenai/Kodiak experienced 94 wildfires averaging 2.2 acres in size, and Anchorage/Matanuska-Susitna Valley had 111 fires averaging 1.4 acres in size. Fire line construction in the coastal region consists of scraping back the moss and duff with a shovel to expose mineral soil.

Pesticides and fertilizers. The only reported pesticide used by the commercial timber industry is wood preservative (creosote and pentachlorophenol) to treat pilings for log transfer facilities. Ambrosia beetles may be a problem in southeast Alaska, but operators use BMP's, such as pheromone traps, to control the population. Forest Service researchers have occasionally used small amounts of pesticides to test possible spruce bark beetle controls.

Fertilizers are not currently being used on state, private or federal commercial forest lands due to the expense of application.

Forested wetlands. According to a draft report by the US Fish and Wildlife Service, there are approximately 3.3 million acres of palustrine forested wetlands in southeast and southcentral Alaska and along the Gulf of Alaska coast. Roughly two-thirds of those acres are managed by the US Forest Service. There are approximately 1.04 million acres of palustrine forested wetlands in arctic and western Alaska.

### ***Analysis***

6 AAC 80.100, Timber Harvest and Processing standard, incorporates by reference the Forest Resources and Practices Act (FPA), and the regulations and procedures adopted under that law. The standard is currently being revised to adopt the latest version of the regulations.

The FPA includes a set of enforceable standards, prescriptions for stream buffers, notification, review and enforcement procedures, and consideration of wildlife and other non-timber uses. The FPA states that for federal lands, the degree of resource protection may not be less than that established for state land.

FPA regulations establish standards that, in conjunction with the Department of Environmental Conservation's §319 program, constitute the state's nonpoint source pollution control requirements for forestry activities. (11 AAC 95.185 (h)). BMP's serve as the enforcement mechanism for violations of water quality standards.

The FPA regulations establish riparian (streamside management areas) standards that are among the most stringent in the nation. Timber harvest is prohibited within 100 feet of an anadromous or high value

resident fish waterbody on state and federal land in southeast Alaska, and state, federal and private land in southcentral, northern and western Alaska. Timber harvest on private land in southeast Alaska is prohibited within 66 feet of a Type A waterbody, and must be conducted in compliance with slope stability standards within 100 feet of a Type B waterbody or 50 feet of a Type C waterbody.

The Timber Harvest and Processing standard is the only ACMP standard of review applied to federal timber harvest activities, unless those activities also require a state permit. In that case, all of the ACMP standards apply.

Commercial timber harvest activities in forested wetlands on public land are subject to 6 AAC 80.100, Timber Harvest and Processing, rather than the more restrictive 6 AAC 80.130, Habitats. This is consistent with §6217, which also specifies a separate management measure for forestry activities in wetlands.

### ***Conclusion***

The ACMP, primarily through the Timber Harvest and Processing standard, adequately achieves the intent of the §6217 management measures for forestry.

With regard to Management Measure I, Forest Chemical Application, fertilizers are not currently applied on commercial forest land in Alaska, and are not expected to be applied in the future, due to the high cost of application relative to the return. Pesticides are adequately covered in the Air, Land and Water Quality standard. Aerial application of pesticides and application of pesticides to water are subject to ACMP consistency review.

With regard to Management Measure G(4), Fire Management, wildfire suppression and rehabilitation impacts on water quality are not addressed in any ACMP standards. However, given the insignificant amount of coastal acres that burn each year, and the manner in which wildfire is suppressed (i.e. firelines are constructed by hand, not by heavy equipment), coastal waters are still protected generally even if this section of the management measure is not addressed.

## MARINAS, BOAT HARBORS and RECREATIONAL BOATING

### *Resource Information*

Boat harbors (which, for purposes of this report, are synonymous with marinas) are hubs for industry, transportation and recreation. There are about 140 facilities in the state, ranging from simple floats in remote coves to multi-million dollar complexes with extensive upland development. In general, Alaska's harbors are quite spartan compared to similar sized facilities in the lower 48 states.

The majority of boat harbors in Alaska are designed, built and owned by the Alaska Department of Transportation and Public Facilities (DOT/PF). These harbors provide moorage for over 10,000 vessels. Three-fourths of the DOT/PF owned facilities are maintained under management agreements with communities or operators. Most harbor construction in the future is expected to be initiated at the municipal level, with federal and state financial assistance.

According to the Department of Fish and Game, there is one boat for every twelve adults in Alaska.

Hull maintenance areas. Boat hulls are generally repaired, cleaned and painted while the boat is on a "grid." A grid is a simple kind of dry dock that consist of a series of wooden timbers laid on the seaward side of a dock. At high tide, the boat is tied up to the dock, floating over the timbers. When the tide goes out, the boat rests on the timbers that are now exposed. Hull maintenance can proceed until the next rising tide. Because grids are so inexpensive to construct and so effective, there are only four boat harbors in the state with upland hull maintenance areas.

Sewage and waste oil disposal facilities. One very conservative estimate suggests that of the 34,000 registered recreational boats in Alaska, at least 5,100 have a marine head or portable toilet on board. Only two boat harbors in the state currently provide public-use marine pumpout facilities. Thirteen harbors received funding under the Clean Vessel Act pumpout grant program to construct new or rehabilitate existing pumpouts. This will provide facilities for at least 4,800 of Alaska's recreational boats.

Most boat harbors have waste oil collection tanks and oil clean-up materials available.

Two surface waterbodies are listed in the 1992 *Water Quality Assessment* as impaired by sewage and petroleum hydrocarbons from marinas. Five surface waterbodies are suspected of being affected by marina nonpoint source pollution, but require further investigation to verify problems.

### ***Analysis***

Under section 10 of the Rivers and Harbors Act, the Army Corps of Engineers regulates all work and structures in navigable waters of the United States. Under section 404 of the Clean Water Act, the Corps regulates discharges of dredged or fill materials in navigable waters, including wetlands. Both of these federal permits are subject to consistency review. (AS 44.19.145(a)(11)). The state may object to the Corps permits if the proposed action is inconsistent with the ACMP.

In addition, state agency projects in the coastal zone, such as the construction of a harbor by the Alaska Department of Transportation and Public Facilities, must be consistent with the applicable district enforceable policies and statewide standards. Federal agency projects must also be consistent with the ACMP. Federal agencies that have designed and constructed boat harbors in Alaska include the National Park Service, US Coast Guard, US Army Corps of Engineers and National Marine Fisheries Service.

Standards that address the siting, design, operation and maintenance of new or expanding marinas and boat harbors include:

- 6 AAC 80.040, Coastal Development
- 6 AAC 80.050, Geophysical Hazard Areas
- 6 AAC 80.130, Habitats
- 6 AAC 80.140, Air, Land and Water Quality

The Coastal Development standard gives priority to waterfront development that is water-dependent or water-related. Deference is



given to local governments on deciding uses of limited waterfront space. All uses which locate along the shore must comply with the other ACMP standards as a further assurance of management control.

The Geophysical Hazard Areas standard addresses erosion and flooding, whether due to natural processes or caused by human activities. Development in areas that have been identified as likely to erode or flood may not be approved until siting, design and construction measures for minimizing damage and loss of life have been provided. Structural and non-structural solutions may be used to prevent or reduce erosion.

Where development is not present or reasonably anticipated, the ACMP approach is to let natural erosion occur unimpeded. This is consistent with 6 AAC 80.130, Habitats, which protects natural processes. The Habitats standard also protects areas which prevent or reduce erosion.

The Habitats standard directs that estuaries be managed to ensure adequate water flow, natural circulation patterns, nutrients, and oxygen levels, and to avoid the discharge of toxic wastes and silt, and destruction of productive habitat. Wetlands and tideflats must be managed to assure adequate water flow, nutrients and oxygen levels, and to avoid adverse effects on natural drainage patterns, the destruction of important habitat and the discharge of toxic substances.

Department of Environmental Conservation (DEC) regulations and statutes that pertain to the protection of air, land and water are incorporated by reference in the Air, Land and Water Quality standard. DEC's 401 water quality certification, water quality standards, solid waste regulations, and oil pollution regulations are important tools for controlling nonpoint source pollution from marinas.

### ***Conclusion***

#### ***Siting and design.***

The ACMP statewide standards and consistency review process adequately meet the intent of the harbor siting and design management measures, except for the requirement to reduce average annual loadings of total suspended solids (TSS) from hull maintenance areas

(including grids) by 80%, and the requirement to design fueling stations to facilitate cleanup of spills.

With regard to the reduction of TSS, the Habitats standard is adequate to prevent the discharge of toxic substances into estuaries and tideflats but does not specify a numeric reduction. Additionally, DEC has not adopted a TSS requirement in the water quality standards (which are incorporated into the Air, Land and Water Quality standard), but rather substitutes turbidity and settleable solids for TSS. The state and the Environmental Protection Agency will discuss the adequacy of this substitution in the future.

With regard to fueling station design, the Habitats and Air, Land and Water Quality standards only indirectly address this management measure. The Habitats standard requires estuaries and tideflats to be managed to prevent the discharge of toxic wastes and substances, but says nothing about requiring facilities in these habitats to be designed for ease of cleanup if a spill does occur.

AS 46.03.740, DEC's oil pollution statute, prohibits the unlawful discharge of oil, but does not address how to facilitate the cleanup of the discharge. DEC regulations that address cleanup apply only to oil tankers, oil barges, oil terminals, exploration facilities and production facilities, not marine fueling stations.

*Marina and boat operation and maintenance.*

Operation and maintenance activities such as solid waste handling, maintenance of sewage facilities, and liquid waste handling are subject to ACMP consistency review when harbor permits are renewed, if the standards of review have changed or the harbor has expanded significantly since the original permit was issued.

The Boat Operation management measure applies to non-harbor waters where evidence indicates that boating activities are impacting shallow-water habitats. The definition of shallow-water habitats is left up to each state. Implementation of the measure can be accomplished through the ACMP when marina development in or near the habitats listed in 6 AAC 80.130, Habitats standard, is proposed. Conformance with the management measure might be strengthened if the Habitats

standard specifically mentioned and defined "shallow water habitat," but the existing list is adequate.

For shallow water habitats that are currently impacted by boat operations, agencies such as Department of Natural Resources Division of Parks and Outdoor Recreation, or Department of Fish and Game Habitat and Restoration Division, will implement this measure through their regulations.

## HYDROMODIFICATION

### *Resource Information*

Channel modification. Channel modifications include flumes, canals, chutes associated with fish hatcheries, excavation projects, and straightened riverbeds. It is not known how many channel modifications exist in Alaska, but they occur to some degree anywhere human development takes place on or near water. Five channelized streams in urban areas are considered impaired in the 1992 *Alaska Water Quality Assessment*.

Dams. There are approximately 90 dams in Alaska that meet the §6217 definition. Twenty of those dams are operated by the federal government or licensed under the Federal Energy Regulatory Commission. One coastal stream is considered impaired due to a dam or flow regulation in the 1992 *Water Quality Assessment*.

Shoreline and streambank erosion. Naturally occurring shoreline and streambank erosion occurs extensively in parts of western and northern Alaska where much of the coastline is composed of unconsolidated sediments or weakly cemented rock. Localized areas of rapid erosion occur along parts of the exposed coastline of the northeastern Gulf of Alaska and Cook Inlet.

Stream flow, surface runoff, nearshore currents and storm surges are the dominant natural erosional agents. Windblown ice, mass soil movement, tsunamis, sieches and subsidence are also factors.

Ice annually erodes up to nine feet off bluffs and up to 24 feet off sand and gravel beaches in the Arctic. In 1968, the Copper River eroded 200 feet of bank in three months. The Matanuska River cut 90 feet of bank in four days. Channels within wide riverbeds of braided rivers can shift dramatically with little predictability during periods of storms and flooding. Little information is known or available about the erosive potential of braided rivers.

While riverine erosion is volatile and unpredictable, many of the coastal areas experience slow, steady encroachment of the sea, often greatly accelerated by winter storms.

Human-induced erosion can be caused by stabilization structures that are intended to alleviate the problem. Structural controls can be successful locally, but can generate new or increased erosion downstream. Human activities such as foot and vehicle traffic along streambanks, timber harvesting, channel dredging, propeller wash from boats, vegetation modification and underwater mining can accelerate erosion. Construction activities that remove the insulating vegetation over permafrost can cause the permafrost to melt, resulting in the collapse of river banks and subsidence.

According to the Army Corps. of Engineers 1971 *National Assessment of Shore Erosion*, significant erosion was occurring along 5,100 miles of shoreline, and critical erosion was occurring along 100 miles of shoreline. A 1984 Department of Transportation and Public Facilities task force identified 62 communities with known erosion problems.

For some communities, the solution to this dilemma will involve much more than just environmental engineering. Traditionally, Natives located summer camps and winter camps along rivers because they served as transportation corridors and sources of food and water. Seasonal camps were easily moved when bank erosion encroached on the sites.

Due to the influence of missionaries, government bureaucrats and traders, Natives now live in permanent year-round villages, also located along rivers. Relocating these settlements will not be easy, either psychologically or physically, when the river inevitably carves its way towards the houses, landfills, airstrips, water and sewer systems.

### *Analysis*

ACMP standards that address hydromodification are:

- 6 AAC 80.040, Coastal Development (described previously)
- 6 AAC 80.050, Geophysical Hazard Areas (described previously)
- 6 AAC 80.070, Energy Facilities
- 6 AAC 80.080, Transportation and Utilities
- 6 AAC 80.130, Habitats (described previously)
- 6 AAC 80.140, Air, Land and Water Quality (described previously)

### *Channel modification*

Channel modification is addressed by the Habitats standard, 6 AAC 80.130, which states that rivers and streams must be managed to protect natural vegetation, water quality, important fish or wildlife habitat and natural water flow. Uses and activities which will not conform may be allowed if there is a significant public need, there is no feasible prudent alternative which would conform to the standard, and all feasible and prudent steps are taken to maximize conformance with the standard.

### *Dams*

Dams and their associated structures that supply regional hydroelectric power are considered energy facilities and are therefore reviewed for consistency with the Energy Facility standard. This standard lists siting and design criteria which indirectly affect the construction and operation of the dam. Regional hydroelectric dams must be sited, to the extent feasible and prudent, to minimize adverse environmental effects, including minimizing clearing, dredging and construction in productive habitats. The design and construction must allow for the free passage of fish.

Dams and their associated structures that supply community power or water are reviewed for consistency with the Transportation and

Utilities standard. This standard requires, among other things, that the siting, design and construction of utility facilities be compatible with district programs.

*Shoreline and streambank erosion*

Shoreline and streambank erosion received considerable attention during the formulation of the ACMP. Appendix 9 of the ACMP *Final Environmental Impact Statement* outlines the planning process districts should use for assessing the effects of shoreline erosion, and evaluating methods to control or lessen the effects of erosion. This process is mandated by 6 AAC 85.050, Resource Inventory, and 6 AAC 85.060, Resource Analysis.

After the analysis, coastal districts develop policies for areas in need of management. The local policies must be consistent with ACMP standards, including the Geophysical Hazard Area standard, 6 AAC 80.050. Development in areas that have been identified as likely to erode or flood may not be approved until siting, design and construction measures for minimizing damage and loss of life have been provided. The standard allows both structural and non-structural solutions to erosion hazards.

The Geophysical Hazard Areas standard is implemented through coastal district enforceable policies and the Department of Natural Resources mining regulations. The City of Bethel, English Bay/Port Graham AMSA, Port of Skagway and Skagway River AMSA, Northwest Arctic Borough, Matanuska-Susitna Borough, and City and Borough of Juneau programs address coastal erosion. However, no state agency has regulatory authority for implementing a comprehensive floodplain or erosion management program.

The Habitats standard, 6 AAC 80.130, applies to uses and activities along estuaries, wetlands, tidelands, rocky islands, seacliffs, barrier islands, lagoons, exposed high energy coasts, rivers, streams, lakes and important upland habitat. These areas must be managed to maintain or enhance the biological, physical and chemical characteristics of the habitat. More specifically,

(2) estuaries must be managed so as to assure adequate water flow, natural circulation patterns, nutrients, and oxygen levels, and avoid the discharge of toxic wastes, silt and destruction of productive habitat;

(3) wetlands and tidelflats must be managed so as to assure adequate water flow, nutrients and oxygen levels and avoid adverse effects on natural drainage patterns, the destruction of important habitat and the discharge of toxic substances;

(4)...seacliffs must be managed so as to avoid the... destruction of important habitat...

(5) barrier islands and lagoons must be managed so as to maintain adequate flow of sediments, detritus and water, avoid the alteration or redirection of wave energy which would lead to the filling in of lagoons or the erosion of barrier islands, and discourage activities which would decrease the use of barrier islands by coastal species, including polar bears and nesting birds;

(6) high energy coasts must be managed by assuring the adequate mix and transport of sediments and nutrients and avoiding redirection of transport processes and wave energy; and

(7) rivers, streams and lakes must be managed to protect natural vegetation, water quality, important fish or wildlife habitat and natural water flow.

The ACMP also addresses shoreline and streambank erosion through Alaska Statute 46.40.210(f) which states that special area management plans may be developed for areas with significant erosion. Special area planning is identified as a priority issue the state will address under the §309 program. In areas where current development is resulting in use conflicts, and where erosion is a threat or is likely to occur, a special area management plan could be pursued.

### ***Conclusion***

#### ***Channel modification***

The ACMP standards and consistency review process adequately control nonpoint source pollution from new channelization projects. Operation and maintenance practices required for existing development may be included in an ACMP consistency review if the permits (e.g:

Fish Habitat permit) are expiring, and the project has changed or the standards of review have changed since the permits were originally issued.

### *Dams*

Protection of Surface Water Quality management measure, Instream and Riparian Habitat management measure and section 1 of the Erosion and Sediment Control management measure are adequately addressed by the ACMP. Section 2 requires an approved dam construction erosion and sediment control plan; such a plan is not required by the ACMP but is a condition of the Department of Natural Resources Dam Construction Certificate of Approval (11 AAC 93.171).

The Chemical and Pollutant Control management measure has two parts. The first part addresses the application, generation, migration, storage and disposal of toxic materials, and is adequately covered under the Air, Land and Water Quality standard. The second part addresses over-fertilization from bank stabilization activities. Fertilizer application is not specifically mentioned in any ACMP standard; however, the Habitats standard indirectly controls this by requiring rivers, streams and lakes to be managed to protect water quality and important fish or wildlife habitat.

Pollution caused by operation and maintenance activities at existing dams is addressed by the ACMP when project permits are renewed.

### *Shoreline and Streambank Erosion*

The ACMP provides a framework to control shoreline and streambank erosion caused by development. 6 AAC 80.050, Geophysical Hazard Areas standard, requires coastal districts to identify coastal erosion areas and develop siting standards to minimize impacts to life and property in those areas. The Habitats standard specifically protects many shoreline and streambank habitats from degradation. Special area management planning is another mechanism districts can pursue to protect shorelines and streambanks.

Existing development that causes shoreline and streambank erosion is subject to ACMP consistency review when the development permits



expire, and the scope of the development has changed significantly, or the standards of review have changed since the original permits were issued.

Although existing ACMP authorities, coupled with other state and federal programs, are adequate to prevent nonpoint source pollution from erosion, the full potential of these programs has not been achieved. Due to the vast size of Alaska's coastline and the unpredictable nature of shoreline and streambank erosion, inventory and assessment efforts are incomplete and inadequately documented. This has hampered state efforts to develop a comprehensive coastal erosion program. The program should, at minimum, bring to bear the expertise of the National Flood Insurance Program, Army Corps of Engineers, USDA Soil Conservation Service, Alaska Departments of Transportation and Public Facilities, Community and Regional Affairs, Environmental Conservation, Fish and Game, and Coastal Management programs.

## URBAN DEVELOPMENT

### *Resource Information*

Implementing §6217 will affect the majority of the population of the state, since approximately 80% of all Alaskans live within 10 miles of the state's coastline. About half the population of the state (approximately 240,000 people) live in one community -- Anchorage. There are two communities with populations between 20,000 and 70,000, one community with population between 10,000 and 20,000, five communities with population between 5,000 and 10,000, 29 communities between 1,000 and 5,000, and more than 177 villages with a population less than 1,000.

Boroughs and home rule and first class cities are required to provide planning and land use regulation. Through these powers, a municipality develops a comprehensive plan, establishes platting requirements for subdivisions and develops a land use ordinance. While many municipalities have planning authority, many have not adopted platting and land use regulations. Some don't want land regulation, others

prefer to let the state take the lead rather than regulate activities through local ordinances.

Fifty-four surface waterbodies are impaired by urban runoff, by far the largest single source of impairment in Alaska. Thirty-three of these impaired waters are located in the Municipality of Anchorage, and eight are in the City and Borough of Juneau.

Water pollution regulation. Boroughs and cities may provide area-wide water pollution control. The only borough to assume limited water pollution control is the Municipality of Anchorage which regulates on-site disposal systems and single-family water well construction.

Municipalities may adopt ordinances to protect their water supply and watersheds, and may enforce these ordinances outside their boundaries subject to AS 29.35.020.

Sanitation. Sanitation conditions in many rural Alaskan communities are comparable to Third World countries. Sixty percent of rural villages use a bucket or an outhouse as a toilet and haul drinking water from a creek, river or community well. Human waste is dumped from buckets into storage pits, or directly onto the ground, seasonal river or ocean ice or into water. The cost of providing acceptable sanitation to rural Alaska is estimated to be between \$1.2 and 1.3 billion and construction would take 10 to 20 years to complete.

Eight coastal surface waterbodies in Alaska are identified as impaired from septic tank failure.

Road construction and road runoff. There are 12 coastal surface waterbodies impaired by urban road construction activities and/or road runoff identified in the 1992 *Water Quality Assessment*. Future federal aid highway projects constructed with ISTEA monies must meet the applicable §6217 requirements.

Stormwater runoff. Stormwater runoff is correlated with the amount and frequency of rainfall, extent of impervious surfaces and population size. In moist southeast Alaska, pulse loadings are not a major concern except in low gradient streams. The majority of communities in Alaska

(5,000 people or less) have very little pavement, due to the high cost of construction and repair.

There are two surface waterbodies identified as impaired by storm drains in the 1992 *Water Quality Assessment*.

### ***Analysis***

Standards that control nonpoint source pollution in urban areas are:

- 6 AAC 80.040, Coastal Development (described previously)
- 6 AAC 80.050, Geophysical Hazard Areas (described previously)
- 6 AAC 80.070, Energy Facilities (described previously)
- 6 AAC 80.080, Transportation and Utilities (described previously)
- 6 AAC 80.130, Habitats (described previously)
- 6 AAC 80.140, Air, Land, and Water Quality (described previously)

### ***Conclusion***

In general, ACMP standards and the consistency determination process adequately control nonpoint source pollution from construction (including the construction of roads, highways and bridges) that requires one or more state or federal permits.

Planning, siting, and design of projects (including roads, highways and bridges) that require one or more state or federal permits is also adequately controlled by ACMP standards and the consistency determination process. The fact that virtually every proposed development in Alaska is in a wetland ensures that the ACMP will play a major role in the planning, siting, design and construction of projects.

Pollution caused by existing development can be addressed by the ACMP when project permits are renewed, if the development has

changed or the standard of review has changed since the permit was originally issued.

However, many pollution-causing uses and activities do not require permits, or do not require approvals that must be renewed. For example, some road operation and maintenance activities do not require permits, and onsite disposal system (septic tank) approvals are in effect indefinitely. The ACMP does not have jurisdiction in these cases. Alaska will have to rely on other agencies' authorities to address these management measures.

Five possible "gaps" between the ACMP and the §6217 urban management measures have been identified:

- 1) inspection, operation and maintenance of new and existing onsite disposal systems are not covered under the ACMP,
- 2) erosion and sediment control plans for construction are not specifically required by the ACMP<sup>1</sup>
- 3) watershed planning is not required by the ACMP,
- 4) 80% reduction of average annual total suspended solids from stabilized construction sites or reduction of post-development TSS loadings so that they are no greater than predevelopment loadings are not required by the ACMP, and may be economically unachievable in Alaska, and
- 5) use of fertilizers during the stabilization/revegetation phase is only indirectly addressed by the ACMP<sup>2</sup>.

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<sup>1</sup> Through the section 401 process, DEC can require an erosion and sediment control plan for a project that is likely to cause sediment water quality problems.

<sup>2</sup> However, the Alaska Department of Transportation and Public Facilities *Standard Specifications for Highway Construction* require the contractor to perform a soil test before applying fertilizer.

## WETLANDS

### *Resource Information*

Alaska is estimated to have roughly 175 million acres of wetlands. Less than .02% are developed.

### *Analysis*

An important ACMP standard against which a project is reviewed is 6 AAC 80.130, Habitats

(b) (Wetlands) must be managed so as to maintain or enhance the biological, physical and chemical characteristics... which contribute to its capacity to support living resources...

(c) In addition to the standard contained in (b) of this section, the following standards apply to the management of the following habitats...

(3) wetlands and tideflats must be managed so as to assure adequate water flow, nutrients, and oxygen levels, and *avoid* adverse effects on natural drainage patterns, the destruction of important habitat, and the discharge of toxic substances... (emphasis added)

(d) Uses and activities in the coastal area which will not conform to the standards contained in (b) and (c) of this section may be allowed by the district or appropriate state agency if the following are established:

- (1) there is a significant public need for the proposed use of activity;
- (2) there is no feasible or prudent alternative to meet the public need for the proposed use or activity which would conform to the standards contained in (b) and (c) of this section; and
- (3) all feasible and prudent steps to maximize conformance with the standards contained in (b) and (c) of this section will be taken.

The effect of 6 AAC 80.130 is to safeguard virtually all of Alaska's coastal wetlands. Uses other than for fish and wildlife habitat are allowed only on an exception basis. The ACMP *Final Environmental Impact Statement* confirms this interpretation:

The term [avoid] is used to apply a strict limitation on impacts, to the point of prohibition. Where the public interest requires some flexibility in the application of those standards... section (d)... provides a series of stringent tests that divergent activities must meet to be allowed. The directive word "avoid" was used to keep the habitat standard extremely stringent. (page 72)

Wetland water quality is addressed in 6 AAC 80.140, Air, Land and Water Quality standard, which incorporates by reference the statutes and regulations of the Department of Environmental Conservation. Wetlands are included as waters of the state in the Alaska Water Quality Standards.

DEC's section 401 certification of section 404 permits is one of the most important ways the state can control wetland development. An applicant for an Army Corps of Engineers "dredge and fill" (section 404) permit must obtain a section 401 certification from the Department of Environmental Conservation that the discharge will comply with the state's water quality standards. Water quality standards apply to marine and freshwater wetlands, which are protected for the most stringent uses. Water quality standards are incorporated into the Air, Land and Water Quality standard.

Areas Which Merit Special Attention and other special area plans can also be used as mechanisms to protect wetlands.

Two other management measures address restoration of wetlands and promoting the use of vegetated treatment systems. The ACMP does not address either of these measures. However, states are not required to have enforceable policies for these objectives.

***Conclusion***

The Habitats and Air, Land and Water Quality standards, Areas Which Merit Special Attention, and section 401 certification adequately protect wetlands.

**Identify Land Uses which Cause Water Quality Impairment, §6217(b)(1)*****§6217 Component***

§6217 requires "identification of, and a continuing process for identifying, land uses which, individually or cumulatively, may cause or contribute significantly to a degradation of..." impaired or threatened waters. Where there are single or limited land uses within a particular watershed, states may be able to simply map and correlate land uses and water quality impacts. In other cases, multiple land uses may require more sophisticated analyses of the relationship of particular uses to particular water quality impacts.

Land uses identified in this process will need additional management measures.

***ACMP Equivalent***

Coastal district programs must identify major land uses that occur within or adjacent to the district (6 AAC 85.050). The program must also identify significant anticipated land use changes, evaluate the capability and sensitivity of resources and habitats for land and water uses and activities, and assess the present and anticipated needs and demands for coastal habitats and resources (6 AAC 85.060).

The list of significant land uses and activities can be modified when coastal districts revise their plans. Plans are revised as they become outdated, when jurisdictions change (for example, when a borough forms), or when new or impending land uses need to be addressed.

Coastal districts also consider land and water uses and activities that have or are likely to have, direct and significant impact on coastal waters when they determine the boundary of their coastal zone (6 AAC 85.040(c)(1)). Districts can extend their boundaries to include these land uses and activities with sufficient justification.

### ***Analysis and conclusion***

Water quality impact is one of the factors that district planners consider when identifying major land uses. To the maximum extent possible, planners include sound, defensible data to demonstrate correlations between land uses and water quality impairment.

The consistency review process is the ACMP mechanism for identifying land uses and activities that cause or contribute to water quality impairment outside a local district. This area includes much of the central and eastern Gulf of Alaska coastline, parts of southeast Alaska, and cities that are not part of a borough coastal district or CRSA.

A potential "gap" concerns the §6217 requirement that land uses be identified which, individually or cumulatively cause impairment. The ACMP regulations listed above as fulfilling this requirement do not require planners to consider cumulative effects when determining significant land uses. However, nine coastal district programs have enforceable policies that address the cumulative effects of land uses in their enforceable policies. See Appendix A for a discussion of cumulative impact assessment in coastal district plans.

## **Identify Critical Coastal Areas §6217(b)(2)**

### ***§6217 Component***

§6217 directs states to identify "critical coastal areas" adjacent to impaired or threatened coastal waters, where new or substantially expanding land uses may cause or contribute to impairment. Critical coastal areas are important coastal areas that need additional measures to protect against anticipated problems. They are established as a preventative step to avoid water quality problems that might otherwise



develop. The designation of the area is "critical" to ensuring that no further water quality impairment occurs and threatened waters do not become impaired.

States have flexibility in delineating critical coastal areas. For example, the state plan may identify a uniform strip of land adjacent to an impaired stretch of shoreline to serve an important pollution abatement function. Or, site specific evaluations may be used to determine the size of critical coastal areas. In addition, areas such as Marine Sanctuaries and Estuarine Research Reserves may be designated critical coastal areas if they are in need of additional protection from new and expanding land uses or if they serve pollution abatement functions that are threatened by new or expanding uses.

Within these critical coastal areas, existing and new land uses would be subject to additional controls, as well as the general (g) guidance management measures.

### ***ACMP Equivalent***

The ACMP provides a means to target areas where existing use conflicts may impinge on sensitive coastal habitats and resources. According to AS 46.40.210, an

"area which merits special attention" (AMSA) means a delineated geographic area... which is sensitive to change or alteration and which... because a claim on the resources within the area would preclude subsequent use of the resources to a conflicting or incompatible use... should be identified for current or future planning, protection or acquisition."

The purpose of an AMSA is to preserve, protect, enhance or restore the value or values for which the area is designated. The ACMP includes a broad array of criteria for selecting areas for special area planning including, but not limited to, potential estuarine or marine sanctuaries (6 AAC 80.158(3), areas of unique, scarce, fragile or vulnerable natural habitat (AS 46.40.210(1)(A); areas of high natural productivity or essential habitat for living resources (AS

46.40.210(1)(B), areas of significant hazard due to storms, slides, floods, erosion or settlement (AS 46.40.210(1)(F), and areas needed to protect, maintain, or replenish coastal land or resources (AS 46.40.210(1)(G)).

There are seven AMSA plans (encompassing 21 different areas) in effect. About half of them were designated, at least in part, to protect or restore water quality.

Alaska's special area planning process and plan contents are currently the subject of a federal §309 project. The outcome of the project is not known at this time, but currently, the processes for nominating and managing an AMSA and identifying and managing land uses that cause impairment and critical coastal areas are remarkably similar.

At this time, plans for AMSA's must include:

- the basis or bases for the designation,
- a description of the area, including dominant physical and biological features, and
- an identification of existing uses and activities, and current and anticipated conflicts among uses and activities within and adjacent to the area. (6 AAC 80.160(a))

§6217 requires state coastal nonpoint pollution plans to include:

- an identification of coastal waters that are impaired or threatened,
- a description of uses and activities that cause or threaten water quality in the above waters, and
- a description of the area

Currently, AMSA management plans must include, among other requirements:

- a statement of the enforceable policies that will be applied in managing the area, and
- an identification of the authority that will be used to implement the proposed management scheme. (6 AAC 80.160(a)(7))

State coastal nonpoint pollution control plans for management of land uses causing water quality impairment and critical coastal areas must include:

- a description of the additional management measures that will be applied to the land uses identified in the proposal,
- an identification of state and local enforceable policies to ensure implementation of the management measures, and
- a schedule for implementation.

### ***Analysis***

Using the 1992 *Alaska Water Quality Assessment* as a guide, there are approximately 60 impaired waters in the coastal zone, and 115 suspected of being affected by nonpoint source pollution. Therefore, presumably, there could be about 175 critical coastal areas of varying sizes in the state. Many of them would be in or near urban areas.

The AMSA planning process should certainly be considered when the state and coastal districts develop a process for determining critical coastal areas. However, it is highly unlikely that AMSA's would be used for very many §6217 critical coastal areas. AMSA plans take years to prepare and gain approval, and can be expensive to develop. Also, the management objectives of AMSA's are usually much broader than just protection of water quality.

The process for delineating and managing land uses and critical coastal areas will be put before the §6217 Task Force and other advisory groups for their input.

***Conclusion***

While there are many similarities between the AMSA planning process and the designation and management of critical coastal areas, the AMSA process is not in most cases the state's best option. The special area planning project that is currently underway may provide more alternatives. Further research into how other states are addressing this §6217 requirement is needed.

**Implement Additional Management Measures, §6217(b)(3)*****§6217 Component***

Once the land uses and critical coastal areas described above are identified, states must describe and implement additional management measures applicable to those land uses and areas. Additional management measures are developed by the state or local governments. Examples include land use planning measures, more intensive or stringent application of an EPA management measure, or state or local government measures for controlling pollution sources not covered under the general §6217 program (e.g., abandoned placer mines).

Additional management measures must be implemented as soon as the state plan is approved if the general measures will not be sufficient to restore water quality of impaired or threatened waters.

For other waters, the performance of the general measures will be monitored for five years. If water quality standards are not attained or maintained, then additional measures must be implemented. §6217 specifies full implementation of additional management measures by 2004.

The state must develop a process and schedule for implementing, evaluating and revising, as necessary, the additional measures after the general measures have been implemented.

### ***ACMP Equivalent***

As mentioned earlier, the consistency requirement described in 6 AAC 50 ensures that the ACMP is implemented within the coastal zone. AS 46.40.100 gives state agencies and municipalities enforcement responsibility for provisions of the ACMP. Violations of stipulations based on enforceable policies found in district plans, special area plans and Areas Meriting Special Attention (AMSA) plans, or violations of consistency related permit stipulations, are subject to enforcement action.

State agencies receive modest monitoring and compliance funds from the ACMP. The intent is to augment agency efforts to ensure that conditions of approval attached to federal or state permits are carried out.

With regard to the §6217 requirement to develop a process and schedule for implementing, evaluating and revising additional management measures, coastal district plans are revised as they become outdated, when jurisdictions change (for example, when a borough forms), when new or impending land uses need to be addressed, or when local interest and commitment in land use planning is generated.

### ***Conclusion***

The identification of land uses causing or contributing to impairment, identification of critical coastal areas, and development of additional management measures are tasks for next year's §6217 grant. It is not possible at this time to determine what, if any, changes to the ACMP might be necessary to implement additional management measures.

Possible mechanisms for evaluating and revising additional management measures will be brought to the §6217 Task Force and other ACMP advisory groups for discussion. One possible mechanism is 6 AAC 85.120 which requires districts to submit annual reports to the Coastal Policy Council. The regulation could be revised to add a requirement that the annual report includes an evaluation of the effectiveness of the district's enforceable policies that ensure coastal waters meet state water quality standards, and, if necessary, a

description of the steps the district will take to help bring impaired coastal waters into compliance.

## **Technical Assistance, §6217(b)(4)**

### ***§6217 Component***

The state must provide technical assistance to local governments and the public for implementing additional management measures.

### ***ACMP Equivalent***

The Coastal Policy Council, through the Division of Governmental Coordination, provides information to districts to carry out their planning and management functions (AS 44.19.161), and provides educational materials concerning coastal management to the public (6 AAC 80.020). The Departments of Community and Regional Affairs, Fish and Game, Natural Resources and Environmental Conservation also provide some technical assistance to coastal districts.

### ***Analysis***

Mechanisms for providing technical assistance are already in place. The ACMP, through the Division of Governmental Coordination, has scheduled workshops, meetings and publication of a handbook to help the public understand and solve nonpoint source pollution problems. Certain types of technical assistance, such as developing mathematical models or engineering specifications, may be more appropriately carried out by other resource agencies or firms. DEC's §319 program is an excellent mechanism for delivering technical assistance and public education.

### ***Conclusion***

Adequate authority exists to implement this requirement.

## **Public Participation, §6217(b)(5)**

### ***§6217 Component***

Public participation in all aspects of the program is required.

### ***ACMP Equivalent***

All Coastal Policy Council, Coastal Policy Council Subcommittee on §6217, and §6217 Task Force meetings are public noticed. The Coastal Policy Council must "give notice of when and where opportunities for public participation will be provided before adoption of guidelines and standards... and amendments to the Alaska coastal management program." (6 AAC 80.020)

Coastal districts provide publically advertised opportunities for public involvement in the development of all district program elements. (6 AAC 85.130) Districts provide copies of draft programs and significant amendments to all parties identified as having a significant interest in the program or amendment. The availability of the document is public noticed, and at least one public hearing is held. (6 AAC 85.145)

### ***Conclusion***

Existing ACMP statutes, regulations and procedures are adequate to meet the intent of §6217(b)(5).

## **Administrative Coordination, §6217(b)(6)**

### ***§6217 Component***

§6217 requires states to establish mechanisms to improve coordination among state and local officials responsible for land use planning, permitting, water quality, habitat protection and public health and safety.

***ACMP Equivalent***

According to AS 44.19.160, the Coastal Policy Council may consult and cooperate with federal, state and local agencies concerned with or having jurisdiction over coastal planning and management. AS 44.19.145 directs the Division of Governmental Coordination, which acts as staff to the Coastal Policy Council, to coordinate all conclusive consistency determinations when a project requires a permit, lease or authorization from two or more state resource agencies.

***Analysis***

DGC is establishing mechanisms to improve coordination among state agencies responsible for water quality and sanitation, habitat protection, transportation, and resource development. State agencies and the US Forest Service have appointed liaison staff to the program. A §6217 Task Force has been formed, comprised of representatives of state agencies and coastal districts. A district planning working group has been convened to study changes to district planning procedures. Some of the changes may incorporate §6217 requirements. DGC and DEC have identified the preparation of a joint MOU as a FY94 work task. MOU's with other agencies are anticipated after the threshold review.

***Conclusion***

The ACMP has adequate authority and political will to satisfy this requirement.

**Coastal Zone Boundary Modification, §6217(b)(7)*****§6217 Component***

The state coastal management agency must respond to NOAA's recommendation for changes to existing coastal zone boundaries. NOAA's recommendation defines what should be the geographic scope of the state's coastal nonpoint program (i.e., the §6217 management area).



***ACMP Action***

The Division of Governmental Coordination's response to NOAA's boundary recommendation is provided in Appendix B.

**TABLE 1**

## ACMP Statewide Enforceable Policies for Agriculture

Management measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
Sediment and erosion control	x			<u>Not subject to ACMP consistency review.</u>
Confined animal facility, large unit	x			New facilities: subject to ACMP consistency review.  Existing facilities: subject to ACMP consistency review at time of nondomestic wastewater permit renewal, if operation has changed or standard of review has changed.
				Air, Land and Water Quality  Habitats
Confined animal facility, small unit	x			Existing facilities: subject to ACMP consistency review at time of nondomestic wastewater permit renewal, if operation has changed or standard of review has changed.  Air, Land and Water Quality  Habitats
Nutrient management	x			<u>Not subject to ACMP consistency review.</u>

Management measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Pesticide management	x			Aerial application of pesticides, and application to water, subject to ACMP consistency review. <u>Surface application of pesticides to private land not subject to ACMP consistency review.</u>
Livestock grazing	x			State grazing leases subject to ACMP consistency review. <u>Grazing leases on private (including Native Corporation) and federal land not subject to ACMP consistency review.</u>
Irrigation	x			1. <u>Operation of existing irrigation and chemigation systems not subject to ACMP consistency review.</u> Water withdrawal permits that indirectly affect nonpoint pollution from irrigation are subject to ACMP consistency review as follows: 1. Water withdrawals of 5000 gallons/day or less (except from known fish overwintering areas) are not subject to ACMP consistency review. 2. Water withdrawals of 5,000-30,000 gallons/day (that do not cumulatively reduce in-stream flow to levels harmful to fish) are consistent with the ACMP if erosion, compaction and alterations to streambanks and shorelines are prevented. 3. Permits for all other water withdrawals are subject to ACMP consistency review.

## ACMP Statewide Enforceable Policies for

### Forestry

Applies to commercial forestry activities on 5 acres or more

Management Measure	Applicable? yes no	If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Preharvest or pre-logging planning	x		Timber Harvest and Processing Standard <sup>1</sup>
Streamside special management areas	x		Timber Harvest and Processing Standard <sup>1</sup>
Road construction, preconstruction	x		Timber Harvest and Processing Standard <sup>1</sup> Equipment Crossing of Streams, General Concurrence-5 Road Crossing, General Concurrence NWP-14 US Coast Guard Approved Bridges, General Concurrence NWP-15 Culvert and Bridge Installation, General Concurrence-7
Road management	x		Timber Harvest and Processing Standard <sup>1</sup> Surface Oiling of Roads, General Concurrence-11

<sup>1</sup> This regulation preempts all other ACMP standards for forestry activities unless those activities require one or more federal or state permits.

Management Measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Timber harvesting	x			Timber Harvest and Processing Standard <sup>1</sup> Abandoned Timber Salvage, General Concurrence-10
Mechanical site preparation	x			Timber Harvest and Processing Standard <sup>1</sup>
Prescribed or wild fire control	x			Prescribed fire: Timber Harvest and Processing Standard <sup>1</sup> <u>Wildfire control not subject to ACMP consistency review.</u>
Revegetation of disturbed areas	x			Timber Harvest and Processing Standard <sup>1</sup>
Fertilizer and pesticide application	x			Aerial application of pesticides, and application to water, subject to ACMP consistency review. <u>Fertilizer application not subject to ACMP consistency review.</u>
Forestry in wetlands	x			Timber Harvest and Processing Standard Habitats Road Crossing, General Concurrence NWP-14

<sup>1</sup> This regulation preempts all other ACMP standards for forestry activities unless those activities require one or more federal or state permits.

# ACMP Statewide Enforceable Policies for Developing and Existing Urban Areas

Management measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Post-development storm water runoff	x			Habitats (wetlands and important upland wildlife habitat). <u>Air, Land and Water Quality standard</u> <u>substitutes turbidity and settleable solids for</u> <u>ISS.</u>
Watershed protection	x			1. Geophysical Hazard Areas 2. Habitats Areas Meriting Special Attention 3. Coastal Development Energy Facilities Transportation and Utilities Habitats Air, Land and Water Quality  <u>Municipalities are not required to incorporate</u> <u>coastal management programs into</u> <u>comprehensive plans, but they must adopt by</u> <u>ordinance.</u>

Management measure	Applicable? yes no	If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Site planning	x		1. Coastal Development Geophysical Hazard Areas Fish and Seafood Processing Transportation and Utilities Habitats  2. Energy Facilities  3. Geophysical Hazard Areas Habitats Air, Land and Water Quality  4. Habitats
Construction sediment and erosion control	x		1. Geophysical Hazard Areas Habitats (wetlands and important upland wildlife habitat) Air, Land and Water Quality Equipment Crossing of Streams, General Concurrence-5  2. <u>ACMP does not require erosion and                sediment control plans.</u>
Construction chemical control	x		1. Habitats Air, Land and Water Quality  2. Habitats Air, Land and Water Quality  3. Habitats <u>Air, Land and Water Quality does not                address application of nutrients.</u>



Management measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Existing development	x			<p>1. Improvements to existing permitted runoff control structures can be stipulated when permits need to be renewed or have expired, if the facility has changed or standards of review have changed. However, the ACPMP does not identify high priority improvements for a watershed.</p> <p>2. The ACPMP does not schedule the construction or rehabilitation of runoff improvements in a watershed.</p> <p>3. Habitats</p> <p>4. Habitats</p> <p>Areas Which Merit Special Attention plans might have limited application in watershed management programs.</p>
New onsite disposal systems (OSDS)	x			<p>Location, design and installation of new OSDS serving 3 or more households subject to ACPMP consistency review.</p> <p><u>OSDS that serve single family dwellings or duplexes are not subject to ACPMP review.</u></p> <p><u>Inspection, operation and maintenance of new systems: not subject to ACPMP review.</u></p>

Management measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
Existing onsite disposal systems <sup>1</sup>	x			Operation of existing onsite disposal systems not subject to ACMP review.
Pollution prevention <sup>2</sup>	x			N/A
Plan, site, and develop roads and highways	x			1. Coastal Development Geophysical Hazard Areas Transportation and Utilities Habitats Air, Land and Water Quality 2. Habitats Air, Land and Water Quality 3. Habitats Air, Land and Water Quality Road Crossing, General Concurrence, NWP-14

<sup>1</sup> Does not apply to existing conventional onsite disposal systems that meet all of the following criteria: 1. treat wastewater from a single family home, 2. are sited where onsite disposal system density is less than or equal to one OSDS per 20 acres, and 3. the onsite disposal system is at least 1,250 feet away from surface waters.

<sup>2</sup> Does not require an enforceable policy.

Management measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Site, design and maintain bridges	x			Coastal Development Geophysical Hazard Areas Transportation and Utilities Habitats Air, Land and Water Quality Culvert and Bridge Installation, General Concurrence-7 Road Crossing, General Concurrence NWP-14 US Coast Guard Approved Bridges, General Concurrence NWP-15 Temporary Construction, Access and Dewatering, General Concurrence NWP-33

Management measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Erosion and sediment control plans for road, highway and bridge construction	x			<p>1. Geophysical Hazard Areas Habitats (wetlands and important upland wildlife habitat). Air, Land and Water Quality</p> <p>2. <u>ACMP does not require erosion and sediment control plans.</u></p> <p>Culvert and Bridge Installation, General Concurrence-7</p> <p>US Coast Guard Approved Bridges, General Concurrence NWP-15 requires the use of appropriate erosion and siltation controls during construction, but <u>does not require the preparation of an erosion and sediment control plan before construction.</u></p>
Chemical control for roads, highways and bridges	x			<p>1. Habitats Air, Land and Water Quality</p> <p>2. Habitats Air, Land and Water Quality</p> <p>3. Habitats <u>Air, Land and Water Quality does not address nutrient application.</u></p>
Operation and maintenance for roads, highways and bridges	x			<p>Operation and maintenance activities that require permits subject to the ACMP are subject to consistency review at the time of permit renewal or expiration, if the activity has changed or the standards of review have changed.</p>

Management measure	Applicable? yes no		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Runoff management systems for roads, highways and bridges	x			Operation and maintenance activities that require permits subject to the ACMP are subject to consistency review at the time of permit renewal or expiration, if the activity has changed or the standards of review have changed.

## ACMP Statewide Enforceable Policies for

### Marinas, Boat Harbors and Boating

These management measures apply to harbors or marinas that contain 10 or more slips, docks where 10 or more boats may tie up, any facility where a boat for hire is docked, any boat maintenance or repair yard adjacent to the water, public or commercial boat ramps, or any mooring field where 10 or more boats are moored. Any stormwater discharge at a boat harbor that is ultimately issued an NPDES permit will become exempt from the Coastal Nonpoint Pollution Control Program at the time the permit is issued.

Management Measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
Flushing <sup>1</sup>	x			Habitats Air, Land and Water Quality
Water quality assessment <sup>1</sup>	x			Habitats Air, Land and Water Quality

<sup>1</sup> Applies to new and significantly expanding facilities.

Management Measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
Habitat assessment <sup>1</sup>	x			Coastal Development  Habitats  Areas Meriting Special Attention  Structures in Fleeting and Anchorage Areas, General Concurrence NWP-9
Shoreline stabilization <sup>2</sup>	x			<u>Boat Ramps, General Concurrence NWP-36</u> <u>Geophysical Hazard Areas</u>  Habitats  Equipment Crossing of Streams, General Concurrence-5
Runoff control <sup>3</sup>	x			Habitats  <u>Air, Land and Water Quality standard</u> <u>substitutes settleable solids and turbidity for</u> <u>TSS.</u>
Fueling station design <sup>1</sup>	x			No standard directly addresses fueling station design. Habitats, and Air, Land and Water Quality standards indirectly address this management measure.

<sup>1</sup> Applies to new and significantly expanding facilities, to protect important habitats designated by local, state or federal agencies.

<sup>2</sup> Applies to new and significantly expanding facilities.

<sup>3</sup> Applies to new and significantly expanding facilities, and to existing facilities for at least the "hull maintenance areas". Hull maintenance areas are areas, including grids, whose primary purpose is to provide a place for boats during the scraping, sanding and painting of their bottoms.

Management Measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
Sewage facilities <sup>1</sup>	x			Habitats Air, Land and Water Quality
Solid waste <sup>1</sup>	x			Habitats Air, Land and Water Quality
Fish waste <sup>2</sup>	x			Fish waste disposal may be included in a consistency review when harbor permits for solid waste and wastewater are renewed, if the harbor has changed or the standards of review have changed since the original permit was issued.
Liquid material <sup>3</sup>	x			Liquid material disposal may be included in a consistency review when harbor permits for hazardous waste and wastewater are renewed, if the harbor has changed or the standards of review have changed since the original permit was issued.
Leaks and spills from boat fueling <sup>4</sup>	x			Boat fueling and bilge pumping are not subject to ACMP consistency review.

<sup>1</sup> Applies to new and significantly expanding facilities.

<sup>2</sup> Applies to facilities where fish waste is determined to be a source of water pollution. Discharges of seafood processing waste covered under an NPDES permit are exempt.

<sup>3</sup> Applies to facilities where liquid material such as oil, antifreeze and paint, is used.

<sup>4</sup> Applies to boats with inboard fuel tanks.



Management Measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
In-water boat cleaning <sup>1</sup>	x			New projects: Air, Land and Water Quality  Existing facilities: Harmful boat cleaning practices may be included in a consistency review when harbor permits for hazardous waste and wastewater are up for renewal, if the harbor has changed or the standards of review have changed since the original permit was issued.
Public education <sup>2</sup>	x			N/A
Maintenance of sewage facilities <sup>3</sup>	x			Maintenance of sewage facilities may be included in a consistency review when harbor permits for hazardous waste and wastewater are renewed, if the harbor has changed or the standards of review have changed since the original permit was issued.
Boat operation in shallow water <sup>4</sup>	x			New development: Habitats

<sup>1</sup> Applies to facilities where water or sediment quality problems are caused by inwater hull or topside cleaning.

<sup>2</sup> Applies to "environmental control agencies" where marinas are located. Does not require an enforceable policy.

<sup>3</sup> Applies to facilities where marine sewage disposal facilities already exist.

<sup>4</sup> Applies to non-marina areas where evidence indicates that boating activities are impacting shallow water habitats.

## ACMP Statewide Enforceable Policies for Hydromodification

Channelization, flow alteration and excavation along streambanks and shorelines

Management measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure will be implemented
	yes	no		
Consider physical and chemical characteristics of surface water.	x			1. Habitats Air, Land and Water Quality 2. Habitats Air, Land and Water Quality 3. Operation and maintenance may be included in an ACMP consistency review when the channel modification permits are renewed, and the project has changed or the standards of review have changed since the permit was issued.
Instream and streambank restoration	x			1. Habitats 2. Habitats 3. Operation and maintenance may be included in an ACMP consistency review when the channel modification permits are renewed, and the project has changed or the standards of review have changed since the permit was issued.

## ACMP Statewide Enforceable Policies for Hydromodification

## Dams

Applies to dams that are either (1) 25 or more in height and greater than 15 acre-feet in capacity, or (2) 6 feet or more in height and greater than 50 acre-feet in capacity

Management Measure	Applicable?		If no, explain	Enforceable policy(ies) that ensures management measure is implemented
	yes	no		
Erosion and sediment control plan <sup>1</sup>	x			<p>1. Geophysical Hazard Areas</p> <p>Energy Facilities</p> <p>Habitats</p> <p>Air, Land and Water Quality</p> <p>Equipment Crossing of Streams, General Concurrence-5</p> <p>Hydropower Projects, General Concurrence NWP-17</p> <p>2. The ACMP does not require <u>                    </u> erosion and sediment control <u>          </u> plans.</p>

<sup>1</sup> Construction activities on sites greater than 5 acres are required to obtain an NPDES permit, and are therefore exempt from this program.

Chemicals and pollutants control <sup>1</sup>	x			<p>1. Energy Facilities Air, Land and Water Quality Hydropower Projects, General Concurrence NWP-17</p> <p>2. Energy Facilities Air, Land and Water Quality Hydropower Projects, General Concurrence NWP-17</p> <p>3. Energy Facilities Habitats <u>Air, Land and Water Quality</u> does not address nutrient application.</p>
Assessment of water quality, aquatic habitats and streamside habitats	x			<p>Operation and maintenance may be included in an ACMP consistency review when the dam permits are renewed, and the project has changed or the standards of review have changed since the permit was issued.</p>

\* Construction activities on sites greater than 5 acres are required to obtain an NPDES permit, and are therefore exempt from this program.

# ACMP Statewide Enforceable Policies for Hydromodification

## Eroding Streambanks and Shorelines

Management measure	Applicable? yes no	If no, explain	Enforceable policy(ies) that ensure management measure will be implemented
Streambank and shoreline erosion causing nonpoint source pollution	x		<p>1. <u>Erosion caused by existing development is not subject to ACMP consistency review</u>, unless the development requires permits subject to the ACMP, the permits are up for renewal, and the development has changed or the standards of review have changed since the permits were issued.</p> <p>2. Geophysical Hazard Areas Habitats</p> <p>3. Geophysical Hazard Areas Habitats</p> <p>Areas Which Merit Special Attention could also be used to implement this measure.</p>

# ACMP Statewide Enforceable Policies for Wetlands and Riparian Areas

Management measure	Applicable? yes no	If no, explain	Enforceable policy(ies) that ensures management measure is implemented
Protection of wetlands and streambanks that filter out pollutants	x		Energy Facilities Timber Harvest and Processing Habitats Air, Land and Water Quality Areas Which Merit Special Attention Road Crossing, General Concurrence NWP-14 Minor Discharges, General Concurrence NWP-18 Temporary Construction, Access and Dewatering, General Concurrence NWP-33 Boat Ramps, General Concurrence NWP-36
Restoration of wetlands and streambanks that filter out pollutants	x		N/A
Promote the use of vegetated treatment systems	x		N/A

## APPENDIX A

## Project Consistency Regulations

The ACMP consistency regulations (6 AAC 50) directly reference cumulative impacts in two sections. First, cumulative impacts must be considered when amending the lists of categorically approved permits and general concurrence determinations [6 AAC 50.050(3)]. These lists identify classifications of permits which are eligible for expedited review. Second, cumulative impacts must be considered when evaluating the need for public notice during a consistency review [6 AAC 50.070(f)].

As mentioned earlier, consistency regulations that include the phrase "use of direct and significant impact" allude to cumulative impacts because the statutory definition of this term mentions cumulative impacts.

## Coastal District Program Enforceable Policies

Unquestionably, enforceable policies in coastal district programs provide stronger direction to consider or mitigate cumulative impacts than State statutes or regulations. At least 19 of the 33 coastal districts address cumulative impacts in one way or another and two districts address secondary impacts. Table 2.3 summarizes these policies. This table, however, does not include state or federal provisions adopted by reference into district programs (e.g., some district programs have adopted State DEC regulations or the federal Corps regulations).

Although a number of districts have adopted similar CSI policies, no attributes appear to be common to all programs. A few generalizations, however, can be made.

- Eleven programs include cumulative impact requirements by adopting the statutory definition of a "use of direct and significant impact" found in AS 46.40.210(5).
- Most district CSI policies require control of cumulative impacts rather than just assessing them<sup>29</sup>.
- No provisions provide clear guidance about how to assess or mitigate cumulative impacts.

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<sup>29</sup>About 80 percent of these policies use words such as shall, will, or must when directing reviewers to prevent, avoid, consider, or mitigate CSIs. About 20 percent of CSI policies use less demonstrative terms such as should or may when directing reviewers to identify, gather information about, or consider CSIs. Two policies direct reviewers to approve certain activities if there are no cumulative impacts.



Table 2.3: Policies of Coastal Districts Relating to Cumulative and Secondary Impacts

District	Policy	Description
Aleutians East	Definition	A "significant impact" means an impact likely to have an influence or effect greater than mere chance and has the same meaning as a "use of direct and significant impact" defined in AS 46.40.210(5) which references cumulative adverse effects.
	A-3	Cumulative impacts on fish and wildlife, air and water quality, cultural, and recreation resources must be mitigated.
	B-9	DEC Certificate of Assurance for NPDES permits shall require that discharges of drilling muds have no significant accumulative adverse impacts.
Aleutians West	Definition	Definition of "significant adverse impact" has the same meaning as the definition of a "use of direct and significant impact" in AS 46.40.210(5) which references cumulative adverse effects.
	A-2	Cumulative impacts on fish and wildlife, air and water quality, cultural, and recreation resources must be mitigated.
	A-5	Dredging and filling operations will avoid significant adverse impacts.
	C-7	Development facilities and uses shall not increase sedimentation and turbidity in a manner which could have a significant adverse impact to aquatic productivity or habitats.
	C-12	DEC will assure that cumulative air emissions do not exceed air quality standards.
	C-13	Authorizing agencies shall ensure that cumulative effects on water quality caused by effluent discharges do not exceed water quality standards.
	C-14*	Applicants are encouraged to consult with the district and state agencies to evaluate the potential for cumulative effects of emissions or effluent discharges.
	D-4*	District will coordinate with resource users to identify concerns about significant adverse impacts on subsistence and personal use activities.
	E-5	Road, utility and pipeline crossings of anadromous fish streams shall be minimized and consolidated to reduce multiple impacts.
	F-2	Development shall incorporate appropriate designs and measures to mitigate potential significant adverse impacts to fish resources.
	F-3	New or modified seafood processing operations will avoid discharge of processing wastes which cause significant adverse impacts on water quality or marine habitat.
	I-2	Archeological, prehistoric, and historic resources shall be protected from significant adverse impacts.
Anchorage	Urban-5	Use or activities which would result in direct and significant environmental impacts (not defined) must be prohibited.
(Table continues)	Definition	Rural classification definition includes a discussion of opportunities for recreational uses within the ecological carrying capacity (carrying capacity implies a consideration of cumulative effects)

## Project Consistency Regulations

The ACMP consistency regulations (6 AAC 50) directly reference cumulative impacts in two sections. First, cumulative impacts must be considered when amending the lists of categorically approved permits and general concurrence determinations [6 AAC 50.050(3)]. These lists identify classifications of permits which are eligible for expedited review. Second, cumulative impacts must be considered when evaluating the need for public notice during a consistency review [6 AAC 50.070(f)].

As mentioned earlier, consistency regulations that include the phrase "use of direct and significant impact" allude to cumulative impacts because the statutory definition of this term mentions cumulative impacts.

## Coastal District Program Enforceable Policies

Unquestionably, enforceable policies in coastal district programs provide stronger direction to consider or mitigate cumulative impacts than State statutes or regulations. At least 19 of the 33 coastal districts address cumulative impacts in one way or another and two districts address secondary impacts. Table 2.3 summarizes these policies. This table, however, does not include state or federal provisions adopted by reference into district programs (e.g., some district programs have adopted State DEC regulations or the federal Corps regulations).

Although a number of districts have adopted similar CSI policies, no attributes appear to be common to all programs. A few generalizations, however, can be made.

- Eleven programs include cumulative impact requirements by adopting the statutory definition of a "use of direct and significant impact" found in AS 46.40.210(5).
- Most district CSI policies require control of cumulative impacts rather than just assessing them<sup>29</sup>.
- No provisions provide clear guidance about how to assess or mitigate cumulative impacts.

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<sup>29</sup>About 80 percent of these policies use words such as shall, will, or must when directing reviewers to prevent, avoid, consider, or mitigate CSIs. About 20 percent of CSI policies use less demonstrative terms such as should or may when directing reviewers to identify, gather information about, or consider CSIs. Two policies direct reviewers to approve certain activities if there are no cumulative impacts.

District	Policy	Description
Angoon	Definition	"Significant" means likely to have an influence greater than that attributable to mere chance, has the same meaning as the definition of a "use of direct and significant impact" in AS 46.40.210(5) which references cumulative adverse effects. Same definition is used in the AMSA.
	I(j)(7)	Managing agencies may require floating facilities to minimize conflicts if there are significant adverse impacts on other users.
Angoon AMSA	1-B	A potentially conflicting use shall not cause significant adverse impacts to essential fish and wildlife habitat of species of importance to local residents.
	3-B(6)	Significant adverse impacts of a floating facility on other users may have to be mitigated.
	5-A	Developments which may have a significant adverse impact on wilderness values and fisheries shall mitigate impacts.
	8-C	Extraction or discharge of fill or dredge material shall avoid significant adverse impacts on public water supplies.
	9-C	Uses and activities shall avoid significant adverse impacts to anadromous fish streams and rearing areas.
Bering Straits  (Bering Straits continues)	Definition	"Significant impact" means an impact which is likely to have an influence greater than mere chance and has the same meaning as the definition of a "use of direct and significant impact" in AS 46.40.210(5) which references cumulative adverse effects.
	A-2*	Where significant adverse impacts affect subsistence, the CRSA shall work with affected communities, if requested, to develop mitigative measures and stipulations.
	B-11	Applicants must provide data necessary to determine instream flow if the cumulative impact of water appropriations has the potential to decrease instream flow below the amount necessary for fish and waterfowl habitat and production.
	B-21	Development activities shall not cause significant impacts to habitats for populations of endangered species.
	C-6	Cumulative impacts of new industrial development on air and water quality shall be considered, and cumulative effects must meet all applicable state and federal laws and regulations.
	C-11	Siltation, sedimentation and turbidity shall not pose a significant adverse impact to aquatic life and habitat.
	C-12.1	The DEC Certificate of Reasonable Assurance for NPDES permits shall require discharges to avoid cumulative adverse impacts on fish, wildlife and aquatic plants.
	F-3	Dredging or filling operations which may have a significant, adverse impacts on essential fish and wildlife habitat shall be prohibited unless there is no feasible alternative.
	F-4	Dredge spoil disposal shall avoid significant adverse impact to important and essential habitats and significant alteration of shoreline processes.
	F-7	Where significant adverse impacts from offshore resource exploration cannot be avoided, mitigation shall be considered.

District	Policy	Description
(Bering Straits continued)	G-9.1	Extraction of placer deposits shall avoid <b>significant adverse impacts</b> to essential habitats.
Bristol Bay Borough	4. p 98	Alternative designs shall be considered for proposals if potential <b>adverse impacts</b> to fisheries are <b>significant</b> . (Significant impacts are not defined.)
Bristol Bay CRSA	Definition	"Significant" means likely to have an influence greater than mere chance and has the same meaning as the definition of a "use of direct and significant impact" in AS 46.40.210(5) which references cumulative adverse effects.
	1.3	Dredging or filling projects in waters or wetlands will avoid <b>significant impacts</b> to critical fish and wildlife habitat.
	2.1	Projects in known geological hazard areas will protect against <b>significant</b> loss of fish and wildlife populations.
	4.2	Intent language for this policy requires that the best information about <b>significant adverse impacts</b> of explosives and other seismic technology on fish and wildlife will be used.
	4.3	Vessels engaged in offshore geophysical exploration shall avoid <b>significant</b> interference with commercial fishing activities.
	4.5	Energy facilities will avoid <b>significant adverse impacts</b> to fish and wildlife populations.
	5.4	Bridges and culverts on fish streams will accommodate annual flood conditions without changing the direction and flow or otherwise interfere with migration or spawning unless it is determined that deviation from this policy will not have a <b>significant impact</b> on fish resources.
	8.4	Sand and gravel extraction from certain coastal areas will be permitted only if there will be no <b>significant adverse impact</b> to fish.
Haines**	10.6	Channelization, damming or diversion that alters natural hydrological conditions will be avoided if there will be a <b>significant adverse impact</b> on critical waterfowl habitat.
	Definition	"Significant adverse impact" means the same as a "use of direct and significant impact" defined in AS 46.40.210(5) which references cumulative adverse impacts.
	A-5	Dredging and filling operations shall avoid <b>significant adverse impacts</b> .
	A-9	Development and resource extraction shall minimize erosion and <b>significant adverse impact</b> to shoreline processes.
	A-10	To the extent feasible and prudent, developments in or adjacent to marine and estuarine waters shall not cause <b>significant adverse impacts</b> on migration patterns of commercial and subsistence fish species.
	A-11	All land and water activities shall be planned and conducted to mitigate potentially <b>significant adverse impacts</b> on fish and wildlife populations and valuable habitats, fish harvest activities, air and water quality, and cultural and recreational resources.
(Haines continues)	C-3	Activities on recreational land shall minimize <b>significant adverse impacts</b> to recreational activities, including access.

District	Policy	Description
(Bering Straits continued)	G-9.1	Extraction of placer deposits shall avoid <b>significant adverse impacts</b> to essential habitats.
Bristol Bay Borough	4. p 98	Alternative designs shall be considered for proposals if potential adverse impacts to fisheries are <b>significant</b> . (Significant impacts are not defined.)
Bristol Bay CRSA	Definition	"Significant" means likely to have an influence greater than mere chance and has the same meaning as the definition of a "use of direct and significant impact" in AS 46.40.210(5) which references cumulative adverse effects.
	1.3	Dredging or filling projects in waters or wetlands will avoid <b>significant impacts</b> to critical fish and wildlife habitat.
	2.1	Projects in known geological hazard areas will protect against <b>significant</b> loss of fish and wildlife populations.
	4.2	Intent language for this policy requires that the best information about <b>significant adverse impacts</b> of explosives and other seismic technology on fish and wildlife will be used.
	4.3	Vessels engaged in offshore geophysical exploration shall avoid <b>significant</b> interference with commercial fishing activities.
	4.5	Energy facilities will avoid <b>significant adverse impacts</b> to fish and wildlife populations.
	5.4	Bridges and culverts on fish streams will accommodate annual flood conditions without changing the direction and flow or otherwise interfere with migration or spawning unless it is determined that deviation from this policy will not have a <b>significant impact</b> on fish resources.
	8.4	Sand and gravel extraction from certain coastal areas will be permitted only if there will be no <b>significant adverse impact</b> to fish.
Haines**	10.6	Channelization, damming or diversion that alters natural hydrological conditions will be avoided if there will be a <b>significant adverse impact</b> on critical waterfowl habitat.
	Definition	"Significant adverse impact" means the same as a "use of direct and significant impact" defined in AS 46.40.210(5) which references cumulative adverse impacts.
	A-5	Dredging and filling operations shall avoid <b>significant adverse impacts</b> .
	A-9	Development and resource extraction shall minimize erosion and <b>significant adverse impact</b> to shoreline processes.
	A-10	To the extent feasible and prudent, developments in or adjacent to marine and estuarine waters shall not cause <b>significant adverse impacts</b> on migration patterns of commercial and subsistence fish species.
	A-11	All land and water activities shall be planned and conducted to mitigate potentially <b>significant adverse impacts</b> on fish and wildlife populations and valuable habitats, fish harvest activities, air and water quality, and cultural and recreational resources.
(Haines continues)	C-3	Activities on recreational land shall minimize <b>significant adverse impacts</b> to recreational activities, including access.

District	Policy	Description
(Haines continued)	E-2	Transportation, pipeline, and utility facilities shall minimize significant adverse impacts to habitats, biological resources, coastal resources and uses, and recreation and uses.
	E-4	Marine transportation facilities shall be designed to the extent feasible and prudent to avoid significant adverse impacts on tidelands and wetland areas.
	F-4	Maintenance and enhancement of fisheries resources shall be given high priority in review of uses which might have a significant adverse impact.
	G-2	Timber harvests shall minimize significant adverse impacts on fish and fish habitat, public access, drainage patterns, and infestation of forest pests.
	G-3	Timber processing and storage operations shall ensure that wood waste does not create significant adverse impacts on streams and drainages, wetlands, tidelands or marine waters.
	I-4*	The district should coordinate with affected resource users when land and water activities may have a significant adverse impact on subsistence or personal use activities.
	J-2	Maintenance and enhancement of wetlands and anadromous fish habitat shall be given highest priority when reviewing proposals which may cause significant adverse impacts.
	J-3	All local land and water uses subject only the Haines district review shall mitigate potential significant adverse impacts upon freshwater or saltwater wetlands and anadromous fish habitat.
	L-3	When development activities are located in significant historic areas, mitigation is required to the extent feasible and prudent to prevent significant adverse impacts shall be the responsibility of the developer.
Hoonah	n/a	The implementation language for the coastal program requires reviewers to determine if the proposed action will have any secondary effects that will be inconsistent with the future land use plan or that will impact coastal resources.
Hydaburg	Customary Use-5	Encourage cooperation with adjacent owners and managers to manage traditional and customary activities.
	Habitat-2	Encourage cooperative management planning of important habitat areas.
	Historic-2	Encourage protection of historic, prehistoric, and archeological resources from adverse impacts caused by surrounding uses and activities.
	n/a	The implementation language for the coastal program requires reviewers to determine if the proposed action will have any secondary effects that will be inconsistent with the future land use plan or that will impact coastal resources.
Kenai Borough  (Kenai continues)	Definition	"Significant impact" has the same meaning as a "use of direct and significant impact" defined in AS 46.40.210(5). This definition addresses cumulative adverse effects.
	2.4	Dredging and filling operations will avoid significant impacts to fish and wildlife habitat.
	n/a	Implementation language for policy 5-9 requires best available scientific information relative to significant adverse impacts of explosives and other seismic technology on fish and wildlife.

District	Policy	Description
(Kenai continues)	6.2	Road, pipeline, and utility crossings of anadromous streams shall be consolidated at single locations to reduce multiple impacts.
	8.2	Mariculture facilities shall minimize cumulative impacts on water quality and disease transmission.
	10.2	Extraction of placer materials shall avoid significant adverse impacts.
	10.3(c)	Offshore mining within a one-mile radius of anadromous fish streams shall avoid significant adverse impacts.
	10.3(d)	Extraction of sand and gravel from the sea bottom shall avoid significant adverse impacts to important habitats, fishing activities, coastal erosion and deposition, and navigation.
Port Graham/ Nanwalek AMSA  (Kenai Borough)	Definition	"Significant impact" has the same meaning as "use of direct and significant impact" as defined in AS 46.40.210(5) which addresses cumulative adverse effects.
	6.1	New roads or trails used for motorized vehicles shall be consolidated at single locations on anadromous fish streams to reduce multiple impacts.
Kodiak	Energy-9	Energy facilities with airborne emissions shall be located where winds and air currents can disperse the emissions and where the cumulative impact does not violate state and federal standards.
	Energy-10	Effluent from energy facilities shall be located where currents can disperse effluent and where the cumulative impact does not violate state and federal standards.
	Air/ Water-1	New large-scale industrial developments shall evaluate potential cumulative impact on district air and water quality.
Matanuska- Susitna	n/a	An attachment to the March 31, 1988 Coastal Policy Council order approving an amendment to the district program approved uses and activities within 75 feet of the ordinary high water line of rivers, streams and lakes when there are no significant adverse impacts to water quality and fish and wildlife habitat.
	3-b (p.46)	Firewood harvest areas will be managed considering the sustained yield carrying capacity of the areas.
North Slope	2.3.3.(a)	Development (single projects or a series of projects) shall not deplete subsistence resources below the subsistence needs of borough residents.
Northwest Arctic	E-2	The cumulative impact of new industrial development on district air and water quality shall be considered in the review of proposed projects.
	F-2	Development shall not result in significant adverse impacts (not defined) to other coastal processes.
	AA-2	Activities shall not have a significant adverse impact on marine mammals.
	BB-2	Activities shall not have a significant adverse impact on marine mammals.
Sitka (continues)	1.5(6)	Significant adverse impacts shall be mitigated for floating facilities. (Significant adverse impacts are not defined.)

District	Policy	Description
(Kenai continues)	6.2	Road, pipeline, and utility crossings of anadromous streams shall be consolidated at single locations to reduce multiple impacts.
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North Slope	2.3.3.(a)	Development (single projects or a series of projects) shall not deplete subsistence resources below the subsistence needs of borough residents.
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	F-2	Development shall not result in significant adverse impacts (not defined) to other coastal processes.
	AA-2	Activities shall not have a significant adverse impact on marine mammals.
	BB-2	Activities shall not have a significant adverse impact on marine mammals.
Sitka (continues)	1.5(6)	Significant adverse impacts shall be mitigated for floating facilities. (Significant adverse impacts are not defined.)



District	Policy	Description
(Sitka continued)	1.7	Waterfront projects adjacent to the road system shall be reviewed to determine <b>cumulative effect</b> upon tidelands and wetlands and fish and wildlife.
	6.6	Mariculture operations shall be evaluated with respect to the <b>cumulative effects</b> of all mariculture sites in operation.
	8.1	Sand and gravel may be extracted from tidelands if no feasible upland alternative exists and the extraction will not result in <b>significant adverse effects</b> .
	9.1	Land and water uses shall minimize and/or mitigate <b>significant adverse impacts</b> on subsistence resources.
Skagway	D-9*	<b>Cumulative effects</b> of new major developments on ambient air and water quality will be considered in the review of proposed development projects.
Thorne Bay	Definition	"Significant adverse impact" has the same meaning as a "use of direct and significant impact" defined in AS 46.40.210(5) which addresses <b>cumulative adverse effects</b> .
	I.(c)	Land and water uses shall be conducted with appropriate planning, implementation, and monitoring/enforcement to mitigate potentially <b>significant adverse impacts</b> .
	III.(b)	Public access to important recreation and fish and wildlife harvest areas shall be increased if there will be <b>no significant adverse impacts</b> to fish and wildlife populations.
	VI.(a)	Seafood processing and mariculture facilities shall be designed and operated to prevent <b>significant adverse impacts</b> .
	VII.(b)	Disposal of timber waste shall not have a <b>significant adverse impact</b> on fish and wildlife habitats.
	VII.(f)*	Firewood gathering should <b>minimize adverse environmental impacts</b> .
	VIII.(b)	Sand and gravel extraction from state tidelands, submerged lands and fish bearing waters will be prohibited unless there will not be a <b>significant adverse impact</b> .
	IX.(a)	All steps will be taken to safeguard personal and subsistence use from all <b>significant adverse impacts</b> .
	X.(c)(2)	Development shall not have a <b>significant adverse effect</b> on the Thorne River estuary.
	X.(g)	Uses and activities shall avoid <b>significant adverse impacts</b> to anadromous fish streams.
	XI.(b)	<b>Cumulative impacts</b> of new industrial development on district air and water quality shall be evaluated and considered by authorizing agencies in the review of projects.
	XI.(d)	The discharge of industrial and commercial wastewater into the coastal waters shall be limited to areas with enough flushing action and will be in amounts that will avoid <b>significant adverse impacts</b> .
	XII.(c)	Archeological, prehistoric and historic resources shall be protected from <b>significant adverse impacts</b> .
(Table continues)	IV.(b)(1)	Energy facilities will be sited to minimize adverse environmental and social effects (not defined) while satisfying industrial requirements.

District	Policy	Description
Valdez	Definition	"Significant Impacts" are those likely to have a greater influence than mere chance and has the same meaning as a "use of direct and significant impact" in AS 46.40.210(5) which references cumulative impacts.
	B-6	Short-term effluent and cumulative impacts of facilities shall not violate state and federal water quality standards.
	K-6	Developments that may cause significant adverse impacts on fish and wildlife shall provide a minimum 25 foot buffer and where prudent and feasible, a 100 foot buffer.
Whittier	Definition	"Direct and significant impact" uses the same language as a "use of direct and significant impact" defined in AS 46.40.210(5) which addresses cumulative adverse effects. The definition does not directly reference the statute.
	G-12*	Cumulative effects of new major developments on ambient air and water quality should be considered during project reviews.

\* Administrative Policies

\*\* Before approving the Haines Program at its February 9, 1993 meeting, the CPC removed enforceable policy K-6 which required consideration of cumulative impacts on air and water quality.

Source: Coastal District Policies

Prepared by the Division of Governmental Coordination, June 1993

- Most district CSI provisions are enforceable policies although a few are administrative policies.
- Most programs with cumulative impact provisions indicate specific resources for which they are to be applied. Only four programs have general cumulative impact provisions for all coastal resources, and two programs have general cumulative impact provisions for specific areas within the district.

Cumulative impact provisions addressed in district programs span a wide breadth of concerns. The policies most often deal with air and water quality and fish and wildlife resources. References to CSIs also emphasize dredge and fill operations, stream crossings, subsistence resources, archaeologic and historic resources. Other less common policies address the cumulative impacts of seismic testing, disposal of drilling muds, marine mammals, mariculture, placer mining, floating facilities, and wilderness.

The Hoonah and Hydaburg coastal programs contain the only references to secondary impacts in district policies. The implementation language for these programs require project reviewers to determine if the proposed action will have secondary effects on coastal resources that will be inconsistent with "the future land use plan."

While many district policies use the term cumulative impacts, others indirectly reference them. A few references imply consideration or control of cumulative impacts by using terms

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While many district policies use the term cumulative impacts, others indirectly reference them. A few references imply consideration or control of cumulative impacts by using terms

such as carrying capacity, cooperative management (for activities on adjoining lands), and multiple impacts.

Eleven districts use the statutory definition for a "use of direct and significant impact" which speaks to cumulative impacts [AS 46.40.210.(5)]. These districts use this definition to define four different terms:

- "direct and significant impact" (Whittier Coastal District),
- "significant adverse impact" (Aleutians West and Haines coastal districts).
- "significant impact" (Aleutians East, Bering Straits and Kenai Borough, Thorne Bay, and Valdez coastal districts, and Port Graham-Nanwalek AMSA)<sup>30</sup>, and
- "significant" (Angoon Coastal District and Bristol Bay Coastal Resource Service Area).

As discussed earlier, the term "use of direct and significant impact" is specifically applied in the statutes, but its use in a statement of policy within the ACMA reflects legislative intent to consider cumulative effects in the ACMP. Although the definition of this phrase has limited application in the statutes, it is applied extensively in coastal district programs. The inclusion of the statutory definition and associated enforceable policies in district programs provide direction for review of projects during ACMP consistency reviews.

## OTHER STATE PROVISIONS

A number of other Alaska statutes, regulations and policies contain explicit or implicit direction to address cumulative and secondary impacts. These programs are discussed under separate headings: coal mining, oil and gas, aquatic farms, impact assistance, the DFG Mitigation Policy, and indirect references.

### Coal Mining

Before a permit is issued, mining statutes require "an assessment of the probable cumulative impact of all anticipated surface coal mining in the area on the hydrologic balance" (AS

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<sup>30</sup>An AMSA is a special planning area known as an "area which merits special attention" (AS 46.40.210 and 6 AAC 80.158). These areas may occur within and outside of coastal districts.

## APPENDIX B

# STATE OF ALASKA

70

WALTER J. HICKEL, GOVERNOR

## OFFICE OF THE GOVERNOR

### OFFICE OF MANAGEMENT AND BUDGET DIVISION OF GOVERNMENTAL COORDINATION

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February 9, 1994

John King  
NOAA/NOS  
Office of Ocean and Coastal Resource Management  
SS MC4 (N/ORM 3)  
1305 East-West Highway  
Silver Spring, Maryland 20910

Dear Mr. King:

The State of Alaska has the following comments on NOAA's coastal zone boundary recommendation for Alaska, and the draft criteria states may use to evaluate the geographic scope of the §6217 management area.

#### Coastal Zone Boundary Recommendation for Alaska

According to §6217(e), NOAA must evaluate a state's coastal zone boundary to determine whether it extends far enough inland to control uses and activities that have a significant impact on coastal waters. If that review indicates that the state's coastal zone boundary is ineffective in controlling land and water uses which impact coastal waters, then NOAA is to recommend appropriate modifications.

NOAA has not performed such an evaluation for Alaska, but still declares that our boundaries are inadequate. We are presumed "guilty", based on no evidence, and are left to prove ourselves "innocent." This is inexcusable.

OCRM knows full well the comprehensive nature of Alaska's coastal zone. In fact, during the Reagan administration, the State had to argue vehemently with OCRM to accept Alaska's broader definition of "coastal zone". I have enclosed a paper on Alaska's coastal zone, for those in NOAA who are unfamiliar with the state's boundary process.

Additionally, our coastal zone contains 75% of the population of the state. The remaining 25% is located either in Fairbanks, about 400 miles from the nearest coastal watershed, or scattered along the upper reaches of the Yukon and Kuskokwim rivers, in small villages that follow subsistence lifestyles. It is difficult to imagine that this insignificant, widely dispersed population could have any impact on the coastal waters of the state.

We have no further comment on Alaska's boundary recommendation, until NOAA explains the standards it used to decide that the state's existing coastal zone is inadequate.

#### Draft Criteria

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NOAA has provided criteria that states may use to justify a §6217 management area. Unfortunately, in many instances, the criterion requires information that is simply not available for Alaska. As just one example, my staff called state and federal offices in Alaska and Seattle, to get the locations of head of tide on Alaska's 18 major rivers. No one knows where such information can be found, or even if it exists.

We are concerned by the double standard inherent in this process. NOAA admits that there is no available information on which to base their recommendation, but nonetheless, requires Alaska to submit excruciatingly detailed information if it wants to refute the recommendation.

The Coastal Nonpoint Pollution Control Program is still in its infancy. As to be expected with any new program, all parties must be willing to problem-solve to get the job done. We appreciate NOAA's flexibility, and willingness to help states. We look forward to receiving a clarification of the standards NOAA used in its evaluation of Alaska's coastal zone, and NOAA's response to the double standard issue.

Yours truly,

Paul C. Rusanowski, Ph.D  
Director, Division of Governmental Coordination

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